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No. 1243

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CONTENTS

MAJOR CROP PROGRESS AND WEATHER REPORTING

Weather Extremes in Armenia Described (Editorial Report).....	1
Lithuanian Weather Commentary, Grain Crop Pledges (Editorial Report).....	2
Weather, Crop Conditions in Latvian SSR (L. Borisovskaya; SOVETSKAYA LATVIYA, 14 Jun 80).....	3
Field Work Progress in Altayskiy Kray (Z. Aleksandrova; IZVESTIYA, 28 May 80).....	5
Measures for Improving Sunflower Production Reviewed (SEL'SKAYA ZHIZN', 1 Jun 80).....	7
Uzbekistan Grain Crop Projections (Editorial Report).....	10
Grain Harvest Notes From Soviet Central Asia (Editorial Report).....	12
Grain Harvest on Lower Don, Also in North Caucasus (Editorial Report).....	13
Status of Grain Harvest Operations in Uzbek SSR (A. Uzilevskiy; SEL'SKAYA ZHIZN', 21 Jun 80).....	14
Grain Harvest Campaign in Chirkentskaya Oblast (A. Askarov; PRAVDA, 29 Jun 80).....	16

Grain Harvest Notes From the North Caucasus, Lower Volga (Editorial Report).....	18
Grain Harvest Notes From Soviet Central Asia (Editorial Report).....	20
Cotton Crop Notes From the Soviet Union (Editorial Report).....	21
Sugar Beet Crop Notes From the Soviet Union (Editorial Report).....	23
Briefs	
Kuban' Grain Plans	24
Latvian Grain Operations	24
Grain Harvest Preparations Completed	25
Initial Daghestan Grain Yields	25
Pulse Crop Harvest Commences	25
Orlovskaya Oblast Buckwheat Crop	25
Tadzhik Corn Sowings	25
Turkmen Grain Harvest Commences	26
Kirghiz Grain Production	26
Turkmenistan Grain Deliveries	26
Karakalpakskaya ASSR Rice Plan	26
Mass Grain Harvest Commences	27
Ukrainian Grain Harvest	27
Krasnodar Winter Barley Harvest	27
Azerbaijan Grain Preparations	27
Tending of Crops	27
Georgian Grain Plans	28
Primorskiy Kray Crops	28
Fight Against Erosion	28
Shoots Appear	28
Agricultural Aviation	28
Nikolayevskaya Oblast Sunflower Crop	29
Additional Straw Harvest	29
Equipment Readied	29
Alfalfa Harvest	30
Grain Reception	30
Weeding Operations	30
Irrigation of Crops	30
Scientific Recommendations	30
Grain Harvest	30
Grains Matured	31
Preparedness for Harvest	31

LIVESTOCK FEED PROCUREMENT

Kirgizstan Livestockmen Urged To Include Burnet in Rations (Editorial Report).....	32
Briefs	
Milk Veitch Used	33
Perko, Straw for Tadzhik Livestock	33

LIVESTOCK

Regional Specialization of Agricultural Production Discussed (Dmitri Filippovich Vermel, et al; EKONOMIKA SEL'SKOGO KHOZYAYSTVA, Apr 80).....	34
Articles Discuss Horse Raising in USSR, RSFSR (STEPNYE PROSTORY, Aug, Sep 79).....	45
Importance of Horse Raising, by Yu. M. Rastegayev Conditions of Horse Raising	
Future of the Black-Spotted Breed (M. Yusaytis, K. Greblikas; SEL'SKAYA GAZETA, 4 Jan 80)	52
Briefs	
Khabarovsk Kray Agriculture Shortcomings	55

REGIONAL DEVELOPMENT

Progress of Land Reclamation, Soil Improvement in Kazakhstan Discussed (FREUNDSCHAFT, various dates).....	56
Pasturage Flooding Minister Interviewed Irtysh-Karaganda-Dzheskazgan Canal Irrigation Projects Completed	
Agricultural Prospects in Kazakhstan Reviewed (Mikhail Motoriko; FREUNDSCHAFT, 10 Jun 80).....	61
Reports on Zonal Agro-Scientific Conferences (ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA, May 80).....	65

AGRO-ECONOMICS AND ORGANIZATION

Advantages, Problems Associated With Development of Subsidiary Farms (V. Burla; TRUD, 15 May 80).....	70
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TILLING AND CROPPING TECHNOLOGY

Grain Crop Structure in Altayskiy Kray Outlined (A.B. Mishin, et al; ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA, May 80).....	73
Grain, Sugar Beet Sowing in Dzhambulskaya Oblast Discussed (KAZAKHISTANSKAYA PRAVDA, 9, 23 Aug 80).....	78
Official Interviewed, U. Baygel'diyev Interview Difficulties Discussed, by T. Yesirkepbayev, A. Korsunov	
Briefs Sowing Completed	81

MAJOR CROP PROGRESS AND WEATHER REPORTING

WEATHER EXTREMES IN ARMENIA DESCRIBED

[Editorial Report] In Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 7 Jun 80 p 3 and Moscow SEL'SKAYA ZHIZN' in Russian 19 Jun 80 p 1 newspaper items published less than 2 weeks apart throw light on the extremes of weather experienced in Armenia this year. An early June TASS report from a republic party plenum looks at progress and problems in the restoration effort.

"The workers of Armenia met with a high degree of organization, discipline and enthusiasm, the elements which raged during the height of spring field work. This allowed them to keep to a minimum losses from frosts and snowfalls and to establish a good base for the next harvest." The article goes on to note that Armenian First Secretary Demirchyan expressed gratitude from the labor collectives in Armenia to the CPSU and Soviet government for measures directed to the liquidation of consequences of the natural calamities. He and other speakers stated that despite the damage to agriculture and silviculture the workers were filled with resolve to attain fulfillment of the tasks of the five year plan.

A slightly post-mid-June brief notes that the hot dry summer, which followed right after the spring frosts and snowfalls, has given the agricultural workers and irrigators of Armenia a difficult exam and forced a review of water expenditures.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

LITHUANIAN WEATHER COMMENTARY, GRAIN CROP PLEDGES

[Editorial Report] In Vilnius VALSTIECIU LAIKRASTYS^V in Lithuanian 4 May 80 p 4 reports Lithuania's central region got the first spring thunderstorms on 18 April. Nature created a cyclone in the following days over the central Scandinavian area, which moving south (the center passed through Latvia) returned winter to our land for a short time but everywhere. Along the shore wind gusts reached 28 meters per second. The land was covered by one to two centimeters of snow. The Zemaityja highlands got six to eight centimeters of snow. Snow is commonplace in Lithuania in April every year. In 1976 the morning of 29 April found the eastern areas covered by snow. Snow occurred in May in 1927, 1935 and 1955. In 1928 the eastern areas were covered by snow on 2 June.

In Moscow EKONOMICHESKAYA GAZETA in Russian No 17, Apr 80 p 4 enterprises in the southern rayons of Lithuania have begun sowing grain. The grain growers this year must till a spring crop area of almost 700,000 hectares. Grain growers will harvest no less than 28 quintals per hectare and thereby make up the shortfall incurred during the adverse weather of 1979.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

WEATHER, CROP CONDITIONS IN LATVIAN SSR

Riga SOVETSKAYA LATVIYA in Russian 14 Jun 80 p 3

[Article by L. Borisovskaya, agricultural meteorologist: "Weather and Crops"]

[Text] Hot sunny weather prevailed during the first 10 days of June. The maximum air temperature ranged from 20 to 26 degrees and on some days it increased to 27-30 degrees. The average air temperature was 4-6 degrees higher than the norm. The meteorological summer commenced roughly 3 weeks earlier than usual, during the last part of May, at which time the average daily air temperature reached 15 degrees.

There was only infrequent rainfall; heavy showers with hail in some areas occurred on the first and last days of the 10-day period. The total amount of rainfall in the majority of rayons was 1-10 mm, or 10-30 percent of the norm. In some western rayons, it was close to the monthly norm -- 40-47 mm.

With the onset of warm weather, some improvement was noted in the availability of warmth for the agricultural crops. However, just as in the past, a lag developed with regard to plant development, compared to the usual periods (an average of 1 week).

In all areas the ears of the winter rye began to form at a height of 55-100 cm, while the stalks of the winter wheat continued to grow. The principal barley areas are in the tillering-shooting phase. The availability of moisture for the crops is good, with the supplies of productive moisture in the one half meter layer of soil being within the norm of 75-100 mm.

The temperature regime and the moisture conditions in the arable soil layer were favorable for the germination of seed and the development of corn seedlings. In some areas the leaves have begun to form. Potato seedlings have appeared in a number of rayons, with side shoots beginning to grow in some areas on early potato varieties. On a majority of the sugar beet plantings, one or two pairs of leaves have appeared.

The grasses are showing fine growth. During the 10-day period, the height of the clover increased by 15-30 cm and by 10 June the early clover had

reached a height of 35-60 cm and late clover -- 25-40 cm. In some rayons, racemes formed on early clover at a height of 40-45 cm. This indicates that the best periods are at hand for the first cutting. The average weight of fodder from one square meter was 1,500 grams. The cereal grasses on meadows and pastures have commenced heading. The availability of moisture for the grasses is still adequate on a large portion of the territory, however in some eastern rayons the moisture supplies in the arable soil layer are lower than optimum.

The weather is not expected to change appreciably in the near future. Just as in the past, there will be brief periods of rainfall, with the north wind bringing in colder air.

7026

CSO: 1324

MAJOR CROP PROGRESS AND WEATHER REPORTING

FIELD WORK PROGRESS IN ALTAYSKIY KRAY

Moscow IZVESTIYA in Russian 28 May 80 p 1

[Article by Z. Aleksandrova, Barnaul: "The Altay--Hot Days in May"]

[Text] The Altay is completing its sowing campaign. As usual, it began in the east and moved to the south and west. The enterprises of each zone moved sowing complexes into operation as soon as it was time. First sugar beets were sown on 62,000 hectares, peas--on 120,000 and sunflowers--on 95,000 and now spring crops have already been sown on over 3 million hectares. Each day another 330,000 hectares are added to this. The optimal schedule, established by many years of practical experience, dictate conditions--not being late with operations regardless of spring conditions because fall frosts begin here early. In the east and in the foothills uniform shoots are already becoming greener.

In steppe kolkhozes and sovkhoses the sowing of wheat is now in full swing. It must be completed as quickly as possible in order to efficiently utilize the accumulated moisture until the June rains which usually come at the end of the month.

The work of the machine operators is not easy--in recent days it has been hotter in the Altay than in Central Asia--35 degrees! Under such conditions tractor and sower operators are saving valuable moisture by combining field operations. Many fields were harrowed twice in order to break up the crust and halt evaporation. The lapse between soil cultivation and sowing does not exceed 2 hours. Rollers follow sowers.

Local grain farmers have other means of fighting drought. This fight did not begin in May. According to the confirmation of scientists, the main season for accumulating moisture is the long Siberian winter. For this reason fields are cultivated using non-mouldboard equipment starting in the fall. On stubble snow and coulisses were retained. Agronomists also use the strip method of crop distribution--sections planted in wheat are alternated with strips of perennial grasses or fallow.

Kolkhozes and sovkhozes showed more concern than in previous years for the quality of seed. More than 80 percent of the seed is first or second class. Quite recently, for example, Tselinnaya-20 wheat occupied hundreds of hectares in Slavgorodskiy Rayon, but this year Tselinnaya-20 and Tselinnaya-21 have been allocated tens of thousands of hectares.

The Pobeda Seed-Farming Kolkhoz of Rebrikhinskiy Rayon is an example of the attention given to seed farming. The average annual productivity here is higher than in neighboring enterprises by 2-3 or even 4 quintals. The agronomical service of the enterprise is headed by A. Chernyshev, meritorious agronomist of the RSFSR. He has skillfully created the agro-technical conditions necessary for the new varieties to live up to their potential.

In addition to Tselinnaya and Pobeda wheats, Novosibirskaya-67, Mironovskaya and Omskaya-9 are sown. The latter is especially appealing to local grain farmers because of its resistance to lodging.

Everywhere that we visited with the senior agronomist, A. Chernyshev asked whether machine operators were sowing seed at the prescribed depth. This spring the seed must be sown deeper than usual and special attention must be given to cultivating the edges of fields where weeds may become a threat. Brigade leaders and agronomists of complexes watch out for this daily and even hourly.

In the fight for high quality for the spring complex, kolkhozes and sovkhozes are striving to strengthen organizational work with additional measures of material and moral incentives. In Blagoveshchenskiy Rayon, for example, a so-called collective labor book has been introduced. It has coupons for quality--first class, second, third. The loss of even one of these (for violations in agrotechnology) affects the size of the bonus fund. For this reason problems in the operations on spring fields are a rare phenomenon. Farmers are primarily interested in doing everything possible for a good harvest.

8228

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

MEASURES FOR IMPROVING SUNFLOWER PRODUCTION REVIEWED

Moscow SEL'SKAYA ZHIZN' in Russian 1 Jun 60 p 1

[Lead article: "More Attention for the Sunflowers"]

[Text] One of the most important tasks assigned to rural workers by the party is that of achieving a steady increase in the production of vegetable oils. The cultivation of sunflowers will play a leading role in solving this task. In terms of the overall area given to the growing of this valuable crop and the gross yield of oil-bearing seed, our country is the world's leader. However, the rapidly increasing requirements for vegetable oil and for the by-products of sunflower production are still not being satisfied fully.

By consistently solving the task concerned with further expanding the plantings of this crop, high yields of oil-bearing seed are being obtained annually in Moldavia, the Kuban' region and in Odesskaya and Cherkasskaya oblasti. More and more names are being added to the list of experts in sunflower cultivation. This includes the brigades of D.I. Dolya of the Nikopoi' Avrora Kolkhos in Dnepropetrovskaya Oblast and of N.S. Kurpitka of the Kolkhos imeni Lenin in Dinskii Rayon, Krasnodarskiy Kray. Last year they obtained more than 35 quintals of oil-bearing seed per hectare. And how many farms have even come close to this mark!

At the same time, there have been many examples of unjustifiably low yields, especially in Tambovskaya, Lipetskaya and Saratovskaya oblasti and in the Daghestan and Checheno-Ingush ASSR's. The Kherson and Voroshilovgrad farmers are not making sufficient use of their potential. One reason for this lies in the fact that the leaders of local agricultural organs are not devoting proper attention to the growing of sunflowers; they are tolerating violations of the technological discipline and considerable crop losses during the harvest operations. This has led to undesirable consequences -- over the past 4 years, the gross yield of the oil-bearing seed did not reach the level achieved during the previous five-year period.

It is fully beyond the capability of the farmers to overcome the slump that has developed in the production of sunflowers. During the next few years,

It will be necessary to restore the plantings of this crop on farms where they were unjustifiably reduced in size and greater emphasis will have to be given to raising cropping power by means of improvements in the agricultural practices employed in cultivating this crop. One of the first areas of concern is that of waging a campaign against weeds. In particular, we have in mind here the need for introducing into operations the experience accumulated in Zernogradskiy Rayon of Rostovskaya Oblast, Neftegorskiy Rayon of Kuybyshevskaya Oblast and in Mamontovskiy Rayon of Altayskiy Kray, where skilful use was made of a complex of agrotechnical measures for destroying weeds.

Special attention should be given to the cleanliness of the plantations this year, since the cold weather promoted excessive weed growth and the rains -- packing of the soil. Those individuals and groups benefit who carry out their pre-seedling and post-seedling harrowing in a timely manner and who employ weed control harrows for their inter-row cultivations. Use must be made of mechanical equipment owing to the fact that the sunflower fields have not yet been fully supplied with highly effective herbicides. The chemists must master the production of these herbicides, especially those required for the industrial technology, the extent of which is to be expanded. This trend is dictated by experience. Last year, in the Chadyr-Lungaskiy Rayon of Moldavia, use of the new method for cultivating sunflowers produced a yield of 27.5 quintals of oil-bearing seed from each of 2,900 hectares, or 6.5 more quintals than were obtained using the conventional technology. Labor expenditures were reduced by almost twofold. This year the industrial method was employed for sowing sunflowers on 400,000 hectares throughout the country.

The introduction of new and earlier ripening varieties into production operations must be accelerated and each farm must practice sowing a minimum of two varieties having different ripening periods. The time is at hand for truly organizing scientifically sound seed production operations. The existing practice of growing seed on commodity tracts leads to a sharp reduction in seed quality and, as a result, to a reduction in the productivity of the plantations.

There is one long-standing and urgent problem -- that of strengthening the branch's logistical base. The farmers are presently equipped with obsolete attachments for their grain combines, attachments which permit large losses in oil-bearing seed to take place. True, industry has mastered the production of new attachments, but they are being made available in only limited quantities. The machine-builders are providing very poor assistance with regard to solving the problem of improved output quality. During sunflower harvesting operations, from 14 to 18 percent of the oil-bearing seed is crushed -- the Niva combines are not equipped with reduction gears for lowering the revolutions of the thrashing drum. Chain drives can be used in their stead, however the requisitions being sent in each year for such drives by the machine operators are not being honored. Such an attitude towards the requirements of the rural areas must be changed.

One bottleneck continues to be that of processing the harvested crop. If the seed of modern sunflower varieties is neither cleaned nor dried out following thrashing, then spoilage of the seed and, it follows, low quality in the final products generally occurs. In many rayons and even oblasts, owing to a low capability of the drying systems of grain products enterprises and oil plants, the harvest operations must be delayed until late autumn. What is the result of such a delay? According to data furnished by the All-Union Scientific Research Institute of Oil-Bearing crops, more than 4 percent of the crop is lost by the 5th day following the agrotechnical periods and by the 15th day -- more than 11 percent.

The harvesting periods can be reduced by equipping the drying machines with standard grain cleaning units or by building ventilated storehouses and sheds, especially at kolkhozes and sovkhozes which are cut off from the grain receiving points owing to a lack of good roads. But the complete elimination of this problem requires joint effort on the part of both the farmers and the procurement specialists. Moreover, every attempt should be made to avoid a dispersion of forces and resources and emphasis should be placed on converting the processing of oil-bearing seed over to an industrial basis. The experience of the Gubinikha elevator in Novomoskovskiy rayon in Denpropetrovskaya Oblast serves as an example of an intelligent solution being achieved for this problem. Six powerful standard drying units were built here, in addition to those already available at individual farms and this is why the field to elevator conveyor line operates continuously in all types of weather. The harvest work is completed in a timely manner and the farms are able to prepare the soil for spring sowing in a fine manner.

This year sunflowers will be grown on more than 4.63 million hectares throughout the country. It is the responsibility of the farmers and all those who are concerned with the fate of these extensive fields to obtain a high yield and to satisfy more completely the requirements of the state for vegetable oil and protein feeds.

7026

CSO: 1624

MAJOR CROP PROGRESS AND WEATHER REPORTING

UZBEKISTAN GRAIN CROP PROJECTIONS

[Editorial Report] Moscow IZVESTIYA in Russian 28 Mar 80 p 1 projects Uzbekistan's grain production at 3.018 million tons overall, including 1.358 million tons corn and 517,000 tons rice. Corn crop area had been expanded from 140,000 to 190,000 hectares

In Tashkent SEL'SKOYE KHOZYAYSTVO UZBEKISTANA in Russian No 5, May 80 p 3 the agricultural journal from Tashkent projected the grain harvest at 3 million tons, including 1.26 million tons corn and 520,000 tons rice. In addition to irrigated lands about 850,000 hectares are given over to winter grains.

In Moscow TRUD in Russian 19 Jun 80 p 1 states equipment operators yesterday began thrashing wheat and barley in Bazar-Kurganskiy Rayon. Enterprises in Kugartskaya and Batkenskaya vallies are involved in the harvest.

Moscow TRUD in Russian 27 Jun 80 p 1 states sales of grain to the State began yesterday in Kirgizstan. Grain growers successfully overcame the consequences of the cold rainy spring and are gathering 50 and more quintals grain per hectare from irrigated lands and up to 25 quintals grain per hectare from the bogharic lands.

In Moscow SEL'SKAYA ZHIZN' in Russian 29 Jun 80 p 1 reports the grain growers in Kirgizstan began grain sales to the State precisely within the dates agreed upon with the procurement workers despite adverse weather conditions. The first hundreds of tons of grain from this year's harvest have arrived at the elevators. Grain growers fully overcame the consequences of the cold and wet spring and are gathering 50 and more quintals of grain from each irrigated hectare and 22 to 25 quintals per bogharic hectare. The harvest pace is high despite frequent rains. Elevators and combines in Kirgizstan can take in over 20,000 tons of grain per day. Grain growers in the mountain vallies of Tien-Shan will sell no less than 300,000 tons to the State.

In Moscow SEL'SKAYA ZHIZN' in Russian 24 Jun 80 p 3 reports the application of the Ipatovskiy method to the grain harvest helped the equipment operators in Ashkhabadskaya Oblast to be the first in Turkmenistan to finish cutting and thrashing of grains [kolosovyye]. Grain crops in the oblast occupied 51,000 hectares this year. In the primary grain growing rayons they are getting more than 20 quintals per hectare. Sale of grain to the State is nearing an end.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST NOTES FROM SOVIET CENTRAL ASIA

[Editorial Report] Moscow SEL'SKAYA ZHIZN' in Russian 6 July 80 p 1 reports rice growers in Uzbekistan will increase the yield by 6.4 quintals to 52.4 quintals rice per hectare from not quite 100,000 hectares. Of the 517,000 tons rice promised by Uzbekistan's agricultural workers to the State this year, 300,000 tons will come from the Kara-Kalpak ASSR. In one year they have decided to increase the gross harvest by 16 percent or by 41,000 tons. On all 58,000 hectares in the Kara-Kalpak ASSR the tillering phase is completed. At the enterprises they have organized a large scale campaign against weeds, and after that--summer top dressing of the rice. The rice growers in Uzbekistan are striving to grow an early harvest and gather it quickly and without losses.

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 3 July 80 p 1 notes that on the grain fields of Taldy-Kurganskaya Oblast they have started the engines, the harvest has begun. Agricultural workers in Kerbulakskiy, Karatal'skiy and Kirovskiy Rayons were the first to take their combines out onto the fields. At most enterprises they have resolved to complete the harvest in 10 to 12 working days.

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 5 July 80 p 1 reports in Dzhambul'skaya Oblast the grain ripened earlier than usual this year. The harvest is going forth under very adverse conditions. The sukhovey made its "corrections" in the calculations of the agricultural workers. The grains [kolosovyye] on bogharic land turned out poorly filled and stunted, they are being thrashed badly. Units must work at the low cut. Therefore a high degree of organization, experience and mastery are especially important now.

Alma-Ata KAZAKHSTANSKAYA PRAVDA 3 July 80 p 2 reports Kokchetav'skaya Oblast will grow not less than 3,314,000 tons grain and sell as a minimum 2,035,000 tons grain to the State.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST ON LOWER DON, ALSO IN NORTH CAUCASUS

[Editorial Report] Moscow SEL'SKAYA ZHIZN' in Russian 6 July 80 p 1 reports enterprises in Daghestan have already cut winter grains (kolosovyye) on more than 40,000 hectares and thrashed the windrows on 35,000 hectares. Many enterprises are getting 35 to 40 quintals grain per hectare from bogharic land. The flow of grain to the reception points continues.

Moscow SEL'SKAYA ZHIZN' in Russian 6 July 80 p 1 reports the hot dry weather hastened the ripening of the winter crops in the south and south east of Rostovskaya Oblast. The agronomic service informs the grain growers of the condition of the grain daily. On those fields where the moisture in winter wheat has reached 38 to 40 percent equipment operators begin cutting it in windrows. Two phase harvesting of winter crops has begun at enterprises in Orlovskiy, Tselinskiy, Yegorlykskiy and other rayons in the Don area.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

STATUS OF GRAIN HARVEST OPERATIONS IN UZBEK SSR

Moscow SEL'SKAYA ZHIZN' in Russian ?1 Jun 80 p 1

[Article by A. Uzilevskiy (Uzbek SSR)]

[Excerpts] During the past 4 years, the production of grain in Uzbekistan has increased by two and a half times. This year the plans call for the gross yield of grain to be raised to 3.01 million tons, that is, three times the level for the last year of the Ninth Five-Year Plan. The campaign to achieve this planned level has entered the final stage -- the mass harvesting of grain has commenced.

Kashkadar'inskaya Oblast is the largest producer of grain in Uzbekistan. At the present time, there are more than 1,000 combines in operation out on the plots of non-irrigated fields here. The grain has already been harvested from an area of 120,000 hectares. All of the crews are over-fulfilling their established norms on a daily basis and striving to carry out the thrashing work without losses.

The farms in Surkhandar'inskaya Oblast have harvested two thirds of their barley and wheat crops, including the cover plantings. The machine operators in Angorskiy and Gagarinskiy rayons coped with this task in just a matter of a few days. Accordingly, an average of 40-45 quintals of grain was obtained per hectare.

However, the grain crop on a 200,000 hectare tract of non-irrigated land in the Dzhizak Steppe appears different from the above. Here, not all of the rayons received rainfall at the required times. In Zaaminskaya Zone the wheat turned out to be very short and difficulties are being experienced in harvesting it. In order to prevent losses, the specialists and machine operators re-equipped their harvesters for a low cutting and they increased the airtightness of the combines.

In preparing for the grain harvest, the republic's farms created 1,227 harvesting-transport detachments, consisting of 6,000 harvesting, transport, grain cleaning, repair and cultural-domestic teams. Use of the Ipatovo

method created conditions for the highly productive utilization of equipment. Unfortunately however, the increasing potential was not employed in all areas. As yet, the entire combine pool has not been included in the harvesting work. A portion of the machines is lying idle on farms in Dzhizakskaya, Samarkandskaya and Tashkentskaya oblasts. The daily output per combine in Namanganskaya and Ferganskaya oblasts is lower than the average for the republic.

A number of farms and rayons throughout the republic are still only weakly supplying grain for the state's granaries and the procurement rates are lagging behind the indicators for last year. At the same time, the grain is accumulating in large quantities on the thrashing floors. One cause of the lag in grain procurements is the shortage of transport vehicles required for transporting the grain. For example, the motor transport establishments of Uzgokomsel'khoztekhnika made available only one half the number of vehicles required for transporting the grain of the new harvest. The daily output of the trucks being employed for transporting the grain remains low.

These shortcomings were criticized sharply in the Central Committee of the Communist Party of the republic. Specialists from the Ministry of Agriculture, Ussel'khoztekhnika and the Ministry of Motor Transport went out to the various areas for the purpose of furnishing practical assistance to the kolkhozes and sovkhoses. In short, measures are being carried out aimed at increasing the tempo in all areas and further expanding the front of the harvest operations.

7026

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST CAMPAIGN IN CHIMKENTSKAYA OBLAST

Moscow PRAVDA in Russian 29 Jun 80 p 1

[Article by A. Askarov, 1st secretary of Chimkentetskaya Oblast Party Committee]

[Excerpts] The oblast's farms have planted more productive winter varieties of wheat and barley on almost all of their grain fields. High quality seed was placed in the soil simultaneously with fertilizer and herbicides being applied to the rows. The effectiveness of this measure increased noticeably following the organization of the new service -- Sel'khozkhimiya. A fine crop has developed in all areas. The harvest work will be carried out on an area of 544,000 hectares -- a considerably larger area than last year. The state has furnished us with substantial assistance: additional quantities of combines, grain cleaning machines and transport equipment were made available.

On the eve of the harvest campaign, during rayon committee plenums and meetings of the party aktiv and primary party organizations, comprehensive discussions were held on the course of the harvest preparations and seminars were conducted in all of the rayons for the machine operators. One of our principal aims was that of reducing the length of the harvest period. And this goal was achieved for the most part: the workload per combine was just half that of 4 years ago. This is making it possible to complete the harvesting work in just 10-11 days, to reduce losses considerably and to obtain several additional million poods of grain.

For the purpose of raising productivity, the units have been combined into complex harvesting-transport detachments and teams. The plans call for the use of a very important reserve for accelerating the harvest tempo -- maneuvering of the equipment.

During the course of checking upon the readiness for harvest operations in Alghabasskiy, Turkestanskiy and Tyul'kubasskiy rayons, a serious lag in equipment repair work was uncovered. Industrial workers and special detachments of Goskomsel'khoztekhnika subunits were sent out to furnish assistance. Nevertheless, a shortage of parts for the machines is restraining the harvest tempo. It is our hope that the machine building

enterprises will accelerate their deliveries of spare parts and that the economic organs will undertake all of the measures required for improving technical services for the machine inventory.

The oblast's farmers are presently reviewing their socialist obligations and striving to increase their sale of grain to the state. Having joined in the competition being held in honor of the 60th anniversary of the republic and the Communist Party of Kazakhstan and also the impending 26th CPSU Congress, they are striving to complete their harvest campaign quickly and without losses and to supply the homeland with a large quantity of grain.

7026

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST NOTES FROM THE NORTH CAUCASUS, LOWER VOLGA

[Editorial Report] In Moscow SEL'SKAYA ZHIZN' in Russian 25 Jun 80 p 3 reports equipment operators in Anapskiy and Abinskiy rayons were the first in Krasnodarskiy Kray to take their mowers out onto the grain fields. Preparations are going forth for the large scale cutting of barley. The Kuban' area is ready for the harvest. The equipment operators will cut and thrash barley and wheat from almost two million hectares.

The heat with almost a complete lack of wind, which set in during the last 10 days of June, "evened out" the barley on all 313,000 hectares sown in Krasnodarskiy Kray. It ripened simultaneously in the north and in the south as well as in the piedmont rayons.

In Moscow IZVESTIYA in Russian 30 Jun 80 p 1 reports the barley harvest is a warm up for the harvest of the Kuban's primary wealth--winter wheat, which occupies 1.5 million hectares. Specialists have predicted that there will be no gap between the harvests of winter barley and winter wheat. In all a few days remain until the main harvest, which will begin as soon as they can get their combines out of the barley fields.

The above article also contains references by the Dinskiy Rayon Ispolkom to the fact that June thunderstorms with strong gusty winds lodged and twisted the grain, making work there more difficult.

In Moscow PRAVDA in Russian 6 Jul 80 p 1 reports this year has turned out successfully for the grain growers in Stavropol'skiy Kray. The abundant rains which fell in the spring made for good growth and development of the grain crops [kolosovyye]. Agricultural workers are striving to harvest no less than 4.6 million tons of grain.

Within the kray there are several climatic zones. The fields here ripen unevenly. Enterprises in the eastern rayons--Neftekumskiy, Levokumskiy and Budennovskiy--have already begun harvesting. In the third 10 days of June the temperature rose sharply, hastening the ripening of the grain. Agronomists at once made a series of adjustments in the workers'

plans. Large scale cutting of the grain [kolosovyye] will begin in a few days. The grain is thick and tall. It will have to be swathed in windrows in order that in thrashing, not one grain remains on the stalk.

In Moscow SEL'SKAYA ZHIZN' in Russian 24 Jun 80 p 3 indicates the harvest of winter grains has come to the fields of North Ossetia. Equipment operators on the Moadok Steppe were the first to begin harvesting early ripening varieties of barley. The present campaign is a stern exam for the agricultural workers in North Ossetia, who have resolved to produce a record quantity of grain. Here they are doing everything for this.

In Moscow SEL'SKAYA ZHIZN' in Russian 1 Jul 80 p 1 reports in Kalmykia the grain harvest has begun--today mechanized complex detachments of enterprises in the central and western rayons went out into the grain fields. Almost the whole grain area--about half a million hectares is sown to high yielding regionalized varieties of valuable wheat and barley.

In Moscow IZVESTIYA in Russian 5 Jul 80 p 1 an early July article reporting from Liskinskiy Rayon, Voronezhskaya Oblast, states that the delayed spring forced the harvest back somewhat. "This, quite understandably, requires unrepachable work from all equipment and means of transport, for the winter and spring grains must be cut simultaneously. About one million hectares of winter crops alone must be harvested at the soonest possible date."

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST NOTES FROM SOVIET CENTRAL ASIA

[Editorial Report] In Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 19 Jun 80 p 1 reports the warm spring weather and rains accelerated the growth of grasses in Tselinogradskaya Oblast. The feather grass flowered earlier than usual, the wheat grass is coming up.

In Moscow SEL'SKAYA ZHIZN' in Russian 25 Jun 80 p 3 reports the first tens of thousands of tons of wheat and barley have been delivered to the elevators and reception enterprises in Chimkentskaya Oblast. Despite the adverse weather conditions an abundant harvest has grown up. The grain growers have been especially pleased with a newcomer of Kazakhstan background--the spring wheat "Krasnovodopadskaya-210." It produces a larger grain than "Bezostaya-1" which is wide spread in southern Kazakhstan. The increment amounts to two to three and more quintals per hectare.

In Alma Ata KAZAKHSTANSKAYA PRAVDA in Russian 28 Jun 80 p 1 states the aircraft of Agricultural Aviation have appeared over the fields of Dzhetysay, Taranovskiy, Ordzhonikidzevskiy and other rayons in Kustanayskaya Oblast. The "winged crop farmers" will, with the help of chemicals, annihilate the weeds from the air.

In Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 29 Jun 80 p 1 reports from a sovkhos in Saryagachskiy Rayon, Chimkentskaya Oblast, that the grain crops there did not turn out as abundantly as they did last year. There was no rain while they were flowering and filling. And while the wheat was in the milky to waxy ripeness stage a sukhovey rushed over the fields. And still the grain growers here are satisfied with the harvest that has grown up.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

COTTON CROP NOTES FROM THE SOVIET UNION

[Editorial Report] In Moscow SEL'SKAYA ZHIZN' in Russian 15 Apr 80 p 1 it is reported the cotton growers in Azerbaijan have already planted cotton on 100,000 hectares--almost half the cotton area.

In Moscow SEL'SKAYA ZHIZN' in Russian 25 Apr 80 p 1 indicates cotton growers in Azerbaijan have finished planting cotton almost a week earlier than last year. Cotton seed has been put down on about a quarter million hectares. Cotton growers will surpass last year's record when over 740,000 tons of cotton were sold to the State.

Planting of cotton in southern Kazakhstan is going forward at a fast pace. Despite the delayed spring, uneven readiness of the soil and recent pouring rains, cotton growers are planting up to 11,500 hectares a day--significantly more than last year.

Due to the cold weather the cotton growers of Turkestanskiy Rayon (Chimkentskaya Oblast)--the northernmost cotton growing area were late in beginning planting. Now with the onset of fair weather they are making up for the lag with thoroughness and good organization in their work. In all links brigades, kolkhozes and sovkhoses in southern Kazakhstan a campaign for an abundant cotton harvest has now begun.

In Moscow IZVESTIYA in Russian 28 Mar 80 p 1 reports irrigated land in Uzbekistan comprise about 3 million hectares. Almost two-thirds of this, more precisely 1.85 million hectares are given over to cotton. The area under cotton in Uzbekistan remains the same as it was. And to surpass last year's record cotton harvest and to give 5.85 million tons thereof to the State, including 355,000 tons of fine fiber can be done only by increasing yields. It should increase by an average of a quintal per year.

In Moscow TRUD in Russian 16 Apr 80 p 1 and Moscow PRAVDA in Russian 25 May 80 p 1 in Bukharskaya Oblast cotton growers got 36.8 quintals cotton per hectare, 608,700 tons cotton in all in 1979. This year they will produce and sell 700,000 tons of cotton to the State. Cotton growers in Romitanskiy Rayon finished sowing 2 weeks earlier than last

year. Even shoots appeared. But then came pouring rain with hail and shoots were damaged on 4,000 hectares.

The pouring rain and hail did not do damage to crops in Romitanakly Rayon alone. Cotton fields suffered in Alatakiy, Karakul'skiy, Peshkunakly and Shafirkanakly rayons. In all 84,000 hectares had to be resown in Bukharkaya Oblast. But everywhere in the fields there are even shoots quickly gathering strength. This means it will be a good harvest.

In Moscow SEL'SKAYA ZHIZN' in Russian 14 May 80 p 3 indicates in comparison with other oblasts in Uzbekistan the warm weather came quite late to the Kara-Kalpak ASSR, the northernmost cotton growing region in the world. The low temperatures and pouring rains gave the cotton growers more than a few cares. However, they did not shrink before the difficulties; they are making use of every day, every hour of fair weather. Planting of cotton is being completed. In the southern rayons--Turtkul'skiy, Ellikalinakly, Beruniyakiy and Amudar'inskiy--even, healthy shoots have appeared. Cultivation of crops is going forth since rain led to a formation of a crust on the soil. Water must be pumped off some fields.

In Moscow SEL'SKAYA ZHIZN' in Russian 14 May 80 p 3 reports in Turkmenistan special attention is now being paid to fine fiber cotton, which occupies about 170,000 hectares.

In Moscow EKONOMICHESKAYA GAZETA in Russian No 16 Apr 80 p 3 reports the cotton growers in Uzbekistan have attained a high pace in planting: 90,000 hectares of cotton are being sown per day. From the southern zones the planting has shifted to the north. Planters have gone out onto the fields of Khorezmskaya Oblast and Kara-Kalpak ASSR.

In Moscow SEL'SKAYA ZHIZN' in Russian 6 Jun 80 p 1 [Reprinted in Tashkent PRAVDA VOSTOKA in Russian 7 Jun 80 p 1] workers in Uzbekistan will sell a record quantity--5.85 million tons of cotton to the State. In Turkmenistan it will be 1.21 million tons, in Tadzhikistan 903,000 tons, in Azerbaydzhani 605,000 tons, in Kazakhstan 340,000 tons and in Kirgizstan they will sell 210,000 tons cotton to the State.

In Moscow SEL'SKAYA ZHIZN' in Russian 17 Jun 80 p 1 reports Turkmenistan will sell no less than 240,000 tons of fine fiber cotton to the State--almost 20 percent of the gross cotton harvest in the republic.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

SUGAR BEET CROP NOTES FROM THE SOVIET UNION

[Editorial Report] In Moscow SEL'SKAYA ZHIZN' in Russian 17 Jun, 1 Jul 80 p. 1 articles indicate sugar beet growers in Belgorodskaya Oblast have finished the most laborious of operations, weeding of the rows. Stands of optimum density have been formed on 160,000 hectares. They have received much help from workers from the city. Sugar beet growers will harvest 220 quintals sugar beets per hectare, will sell no less than 3.4 million tons sugar beets to the State. Through over plan procurement of sugar beets and decreasing losses in storage and processing no less than 5,600 tons of additional sugar will be derived.

In Moscow SOVETSKAYA ROSSIYA in Russian 11 Jun 80 p. 1 reports the sugar beet area in Krasnodarskiy Kray amounts to 213,000 hectares.

In Moscow TRUD in Russian 15 Jun 80 p. 1 reports sugar beet crop work in Khar'kovskaya Oblast is ahead by a week despite the fact that the sugar beet area has been expanded to 114,000 hectares.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

KUBAN' GRAIN PLANS--Only a brief period of time remains prior to the commencement of the mass harvesting campaign. Active preparations are being made at the kolkhozes and sovkhozes for harvesting the crops of the last year of the five-year plan. The grain growers are devoting a great amount of effort to carrying out the work as quickly as possible and without losses. The deputy chief of the kray's agricultural administration, V. Svyatko, discussed with one of our correspondents the preparations that were being made in the Kuban' region for the new grain harvest. This year the Kuban' farmers must harvest grain crops from an area of 1.72 million hectares. More than 500 harvesting-transport complexes and approximately 900 detachments have been created at the kolkhozes and sovkhozes. For this the last year of the five-year plan, the agricultural workers in the Kuban' have vowed to obtain an average of 37-38 quintals of grain per hectare, to produce 9.5-10 million tons of grain, including 1.1 million tons of rice and to sell 90 percent of their strong and valuable wheat to the state. The kray's farmers are doing everything possible to ensure over-fulfillment of their obligations and to prepare in a worthy manner for the 26th congress of our party. [Excerpts] [Moscow TRUD in Russian 12 Jun 80 p 1] 7026

LATVIAN GRAIN OPERATIONS--A brief calm has descended upon the grain fields, where only recently work was being carried out at a feverish pitch: the republic's farmers, having commenced their sowing of grain crops later than last year, completed this work 1 week earlier than last spring. On all 547,500 hectares, the seed was planted in well fertilized soil during the best periods. "The success achieved by the grain growers was particularly noteworthy in view of the fact that the harvest work had to be carried out following a delayed spring" stated the Deputy Minister of Agriculture for the Latvian SSR V.K. Kukit, during a discussion with a correspondent of Latinform. This year the grain growers have displayed concern not only for obtaining an abundant harvest, but also for doing so in a more rapid manner and for harvesting the crops with a higher degree of reliability. For example, compared to the past, more areas have been set aside for the early ripening regionalized Otra and Abava barley varieties and for some other grains. This will make it possible to harvest a portion of the grain prior to the onset of the autumn period of bad roads, which in past years created

many difficulties during the harvest period. For the final year of the five-year plan, the rural workers vowed to raise the cropping power of the grain crops by 6-8 quintals per hectare and to obtain considerably more grain than last year. We view the organized carrying out of the sowing work as the first serious requirement for the successful fulfillment of the plans. [Excerpts] [Riga SOVETSKAYA LATVIYA in Russian 28 May 80 p 1] 7026

GRAIN HARVEST PREPARATIONS COMPLETED--Rostov-na-Donu--The farmers in the Don region are completing their preparations for the grain harvest. In a majority of the rayons, all of the units have been moved up to the readiness line and more than 1,000 harvesting-transport complexes have been formed. For the very first time, daily schedules have been developed in all areas for thrashing the grain, gathering up the straw and preparing the soil. The plans called for around-the-clock operation of all combines and transport equipment and for wages to be paid to the crews on the basis of job contract plus bonus arrangements. The machine operators in the Don region plan to complete their grain harvest operations in just 8-10 working days. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 May 80 p 1] 7026

INITIAL DAGESTAN GRAIN YIELDS--Makhachkala--The grain harvest has commenced in Dagestan. The farms are employing harvesting-transport detachments and teams for the technical servicing and repair of equipment. The farmers have been pleased by the initial yields -- they are obtaining an average of 30-35 quintals of grain from each hectare. Party-komsomol groups are exercising control over the proper preservation of the crops. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 May 80 p 1] 7026

PULSE CROP HARVEST COMMENCES--Krasnodar--The mass harvesting of pulse crops has commenced in the southern rayons of Krasnodarskiy Kray. The farmers in Krymskiy, Abinskiy, Dinskiy and other rayons have delivered 10,000 tons of green peas to the state receiving points. The Krymsk and Adygeysk combines have commenced the production of canned goods. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 May 80 p 1] 7026

ORLOVSKAYA OBLAST BUCKWHEAT CROP--Orel--The farmers in Orlovskaya Oblast are carrying out the inter-row cultivation of buckwheat. This year it is being grown in accordance with a progressive technology involving the use of a complex of new mechanisms. Buckwheat is now being grown in the oblast on almost 70,000 hectares. The plans call for approximately one half million quintals of grain to be sold to the state. [Text] [Moscow IZVESTIYA in Russian 22 Jun 80 p 1] 7026

TADZHIK CORN SOWINGS--Kurgan-Tyube (Tadzhik SSR)--The farms in the Vakh River Valley have commenced their summer sowing of corn. The sowing units were moved out onto irrigated land, which had been cleared of winter wheat. The plans call for 74,000 tons of grain to be obtained from the spring and summer sowings. The land set aside for silage corn will be sown twice. [Text] [Moscow TRUD in Russian 10 Jun 80 p 1] 7026

TURKMEN GRAIN HARVEST COMMENCES--The grain crops are being harvested throughout the republic. The machine operators in Ashkhabadskaya Oblast were the first to commence this work. The workers at the Kolkhoz imeni Lenin in Gook-Tupinskiy Rayon are making extensive use of the Ipatovo method as they harvest their barley crop in an efficient manner. The initial tons of grain have been delivered to the Ashkhabad Grain Products Combine. [Text] [Moscow TRUD in Russian 12 Jun 80 p 1] 7026

KIRGHIZ GRAIN PRODUCTION--The advent of warm weather in the southern valleys of Kirghizia has accelerated the ripening of the grain crops. Today the machine operators in Bazer-Kurganskiy Rayon began thrashing their wheat and barley from irrigated fields. The farms in the Kugart and Batken valleys, the principal grain areas in Oshskaya Oblast, have joined in the grain harvest operations. The field crop growers are following the traditional schedule -- from the lower "levels" of the central Tyan'-Shan' Range, they are moving ever higher into the foothills and thrashing the grain as it becomes ripe. The machine operators and their partners, the procurement specialists, have made thorough preparations for the busy harvest season. Mechanized harvesting-transport complexes, which are being operated on a double-shift basis, have been created in each rayon. All of the elevators and receiving points have been prepared for accepting the new harvest. Despite the poor spring period, the farmers in the valleys now have a fine harvest of grain crops at hand. Many kolkhozes and sovkhoses are obtaining an average of 50 or more quintals of grain from their irrigated lands and 22-25 quintals from non-irrigated fields. [Text] [Moscow IZVESTIYA in Russian 19 Jun 80 p 1] 7026

TURKMENISTAN GRAIN DELIVERIES--Ashkhabad, 5 Jun--Motor vehicle trains are moving the grain of the new harvest along roads in the southern part of Turkmenistan. The initial 1,000 tons of barley were delivered today to procurement points in Ashkhabadskaya and Maryyskaya oblasts. The kolkhozes in Ashkhabadskiy and Gyaurskiy rayons, which grew grain on virgin land in the zone of the Kara Kum Canal, have obtained 30-35 quintals of grain from each hectare. This year, those farms in the republic which specialize in cotton and vegetable production set aside 86,000 hectares for grain crops. The plans call for no less than 20 quintals of grain to be obtained from each such hectare. Distinct from past years, wheat was grown on a large portion of the winter fields. The harvesting of this wheat has commenced and numerous caravans loaded with wheat are making preparations for delivering it to the receiving points. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 6 Jun 80 p 1] 7026

KARAKALPAKSKAYA ASSR RICE PLAN--Nukus, 19 Jun--Healthy rice seedlings have made their appearance on all check plots in the Karakalpakskaya ASSR. The initial weed control treatment is nearing completion and the crop has been given a fine top dressing of mineral fertilizers. The rice growers in this autonomous republic have reviewed their obligations and have resolved this year to produce no less than 300,000 tons of unscoured rice. This is 40,000 more tons than last year. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 20 Jun 80 p 1] 7026

MASS GRAIN HARVEST COMMENCES--Tashkent--The mass harvesting of grain has commenced in the principal grain area of Uzbekistan -- on the steppe and piedmont fields in Dzhirgatalaya Oblast. [Text] [Moscow TRUD in Russian 17 Jun 80 p 1] 7026

UKRAINIAN GRAIN HARVEST--Kiev--The combines have moved out onto the barley tracts in Krymskaya and Odesskaya oblasti. The work has been organized in two shifts. In addition to ensuring maximum use of the equipment, use of the two-stage harvesting method is also making it possible to avoid crop losses. The republic's farmers, having made the decision to employ the Ipatovo method, created approximately 14,000 complex detachments. They are also taking advantage of the experience accumulated by the machine operators in Primorskiy Rayon of Zaporozhskaya Oblast, who were the first in the Ukraine to assign the mowing and thrashing of the grain crops to inter-farm harvesting-transport subunits. The average daily productivity of the combines was thus raised by a factor of 1.7. [Text] [Moscow TRUD in Russian 29 Jun 80 p 1] 7026

KRASNODAR WINTER BARLEY HARVEST--The harvesting of winter barley has commenced in the foothills of spurs of the Caucasus range and in the fertile valleys in southern Krasnodarskiy Kray. The harvesting-transport complexes of farms in Anapskiy, Abinskiy, Krymskiy and other rayons moved out onto the fields today immediately following the initial harvesting machines. The mowing of the barley, just as stipulated in the pre-harvest plans, is being carried out using mainly the two-stage method and, in some areas, direct combining. One week ago, severe summer showers caused the barley to lodge over considerable areas. In order to avoid grain losses, the machine operators have changed their harvesting tactics and they are now making extensive use of machines equipped with devices for harvesting lodged grain crops. Very hot weather prevails in the kray. The temperature is reaching to almost 40 degrees. This has accelerated the ripening of the barley on the southern fields and in the central steppe rayons. [Text] [Moscow TRUD in Russian 29 Jun 80 p 1] 7026

AZERBAIJAN GRAIN PREPARATIONS--Baku--The grain receiving points in the steppe rayons of Azerbaijan have commenced accepting the grain of the new harvest. The procurement specialists made thorough preparations for this important campaign. The number of motor vehicle unloaders has been increased, the weighing economy has been placed in the proper working order and improvements were carried out in the equipment of laboratories. The grain being received is distinguished by high quality. [Text] [Moscow TRUD in Russian 29 Jun 80 p 1] 7026

TENDING OF CROPS--Yerevan, 2 Jun--The farmers of Armenia have commenced tending their spring crops. The majority of the republic's farms prepared well for this work: the equipment was repaired, personnel were trained and mineral fertilizers were laid away. More than 80,000 tons of mineral fertilizer have already been used in the form of top dressings. In the southern part of the republic, corn is being tilled and the vegetable and geranium plantations cultivated. Many farms in Idzhevskiy, Shamshadinskiy

and other rayon: are already carrying out a second inter-row cultivation of their tobacco plantings. However, some farms are tending their crops as though this work is only of secondary concern. For example, many vegetable and tobacco fields in Azizbukovskiy Rayon have become overgrown with weeds. Here they were unable to organize the work of the machine operators in the proper manner. Owing to breakdowns, if only of a trivial nature, the equipment stands idle for hours. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 3 Jun 80 p 1] 7026

GEORGIAN GRAIN PLANS--Tbilisi, 21 Jun--The mass harvesting of grain crops has commenced in the Georgian SSR. The machine operators in Signakhskiy Rayon were some of the first to begin this work. They have vowed to obtain 5 quintals of grain in excess of the plan from each hectare, to complete their barley harvest in just 3-4 working days and thereafter to make preparations for harvesting their winter wheat. Distinct from previous years, the grain growers on the principal areas under cultivation are harvesting their crops using the two-stage method. [Text] [Moscow PRAVDA in Russian 20 Jun 80 p 1] 7026

PRIMORSKIY KRAY CROPS--Primorskiy Kray is currently devoting main attention to cultivating grain crops, potatoes, vegetables and other crops, of which there are nearly 1 million hectares. [Vladivostok Domestic Service in Russian 0930 GMT 11 Jun 80]

FIGHT AGAINST EROSION--Moscow, 18 Jun, (TASS). Over 34,000,000 hectares of land in USSR have been treated this year in a special way providing them with effective soil protection from wind and water erosion. This year not a single sand-storm or case of serious washing away of soil by heavy rain has been recorded in USSR. The soil protection system promotes an increase in plant-growing production of 1.5-2 times. In Kazakh virgin lands, where winds used to remove the upper soil layer, scientists developed a method of agriculture involving subsurface tilling, keeping stubble, sowing with special machines, strict rotation of various crops on the same field. Measures (MN: not specified) were taken in Altay to protect simultaneously against wind and water erosion, and have successfully turned the area into a major cereal producer. [Summary] [Moscow TASS International Service in Russian 0845 GMT 18 Jun 80]

SHOOTS APPEAR--Tashkent--Uniform shoots for repeat corn crops have appeared in the enterprises of southern Uzbekistan. Machine operators began the first cultivation immediately. [Text] [Moscow TRUD in Russian 8 Jun 80 p 1] 8228

AGRICULTURAL AVIATION--Kzyl-Orda--The airplanes of agricultural aviation have begun the aerochemical weeding of rice plantations in the valleys of Syrdar'ya. [Text] [Moscow TRUD in Russian 8 Jun 80 p 1] 8228

NIKOLAYEVSKAYA OBLAST SUNFLOWER CROP--Nikolayev--In all, the oblast's grain growers required 70 working hours in order to sow sunflowers on all 138,000 hectares allocated for this crop. Use of the Ipatovo method enabled the machine operators to lower considerably the amount of time required to complete the sowing work. They employed wide-swath units on an extensive scale, while skilfully maneuvering their equipment. For the very first time, one fourth of the tracts occupied by sunflowers will be cultivated using a progressive technology. Towards this end, special teams and detachments have been created, the members of which completed work at the oblast school for leading experience at the Avangard Kolkhoz in Yelanetskiy Rayon. Last year, thanks to this new method, 23.9 quintals of seed were obtained here from each of 263 hectares. For the final year of the Tenth Five-Year Plan the oblast's grain growers have vowed to obtain 25,000-30,000 more tons of seed than last year. [Text] [Kiev PRAVDA UKRAINY in Russian 18 May 80 p2] [7026]

ADDITIONAL STRAW HARVEST--Kirovograd--The machine operators of the Mayak Kolkhoz of Znamenskiy Rayon, Kirovogradskaya Oblast, will cut gr'ns close to the ground. They have completed the reequipping of reapers on 17 grain-harvesting combines and three ZhRS-4.9 harvesters. This is enough equipment to harvest all spike crops at ground level. The machinery has been technically adjusted and its operation has been tested. According to plant standards the height at which the stem is cut is 12 centimeters, but skilled kolkhoz workers decreased it to 6-8 centimeters by attaching double-knife cutting apparatuses on reapers. With this type of work regiment each of 2,740 hectares will yield an additional 2 quintals of straw. As a result the reserves of coarse feeds for animal husbandry will be replenished. [Text] [Kiev PRAVDA UKRAINY in Russian 20 Jun 80 p 2] 8228

EQUIPMENT READIED--The grain farmers of Zen'kovskiy Rayon were first in the oblast to complete the preparation of equipment for grain harvesting. Combines have been adjusted for cutting close to the ground. They have been carefully sealed. Most units will conduct harvesting using the flow method. In Poltavskaya Oblast 540 harvesting-transport detachments were preparing for harvesting. The machine operators of Lohvitskiy, Reshetilovskiy, Mashevskiy, Kotelevskiy and Mirgorodskiy rayons can begin harvesting today. It is planned to primarily utilize the two-stage, flow method. It is planned to collect the entire harvest. On the initiative of Mirgorod machine operators, 500 Niva combines in the oblast are being equipped with special attachments for "catching" chaff. It is planned to collect 45,000 tons of it, which is equivalent to 18,000 tons of feed units or to a yield of grains of almost 5,000 hectares. [Text] [Kiev PRAVDA UKRAINY in Russian 15 Jun 80 p 2] 8228

ALFALFA HARVEST--Dushanbe--The enterprises of Tadzhikistan have begun the third alfalfa harvest unusually early. It has been decided in enterprises to produce no fewer than 180 quintals of hay per hectare for the summer. [Text] [Moscow TRUD in Russian 8 Jun 80 p 1]

GRAIN RECEPTION--Chimkent--"Not a gram of lost grain, not a minute of idleness for machines and mechanisms," was the motto for completing the examination of the readiness of grain-reception enterprises of the oblast for receiving the new harvest's grain. [Text] [Moscow TRUD in Russian 8 Jun 80 p 1] 8228

WEEDING OPERATIONS--Alma-Ata--The pilots of agricultural aviation have picked up the challenge to produce a large grain harvest from the farmers of Kazakhstan. Yesterday the enterprises of the steppe zones began the chemical weeding of wheat, barley and other spike crops. [Text] [Moscow TRUD in Russian 11 Jun 80 p 1] 8228

IRRIGATION OF CROPS--Taldy-Kurgan--The farmers have organized 24-hour per day irrigation of agricultural crops according to scientifically-based norms. Each day 15,000-18,000 hectares are irrigated--this is much more than usual. [Text] [Moscow TRUD in Russian 11 Jun 80 p 1] 8228

SCIENTIFIC RECOMMENDATIONS--Stavropol', 12 Jun 80--The airplanes of agricultural aviation have again taken off over the fields of mature winter wheat. In utilizing the recommendations of scientists, the kray's grain farmers have decided to top-dress crops with mineral fertilizers during the period of blooming and early maturation on an area of about a third of a million hectares. As practical experience demonstrates, this important agrotechnical method enables us to significantly increase the threshing of strong and valuable wheat. It increases the gluten content and its bread-baking qualities. In strong and valuable wheats the ear is large and has a reddish color. This is not only because of the abundant steppe sun. The grain farmers of Stavropol'skiy Kray have allocated the best predecessors for winter grains, including the most productive--fallow fields. The goal of Stavropol' farmers is to deliver half of their total quota for state granaries in hard and strong varieties. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Jun 80 p 1] 8228

GRAIN HARVEST--Baku, 12 Jun 80--Azerbaijan has begun the mass harvesting of grains. The farmers of the Druzhba Narodov Sovkhoz in Mil'skaya Steppe are producing 40-45 quintals of barley per hectare during the first trip. A good harvest has also been raised in the enterprises of Muganskaya, Karabakhskaya and Shirvanskaya steppes. In developing the achievements of the current five-year plan in grain production, field workers are fighting to increase the yield from each of 500,000 hectares to 28-30 quintals. The beginning of work was awaited in complete readiness. Harvesting and grain-cleaning technology and transportation were prepared ahead of time, 540 complex were created, including about 2,000 links. The grain farmers of Sabirabadskiy, Bardinskiy, Agdamskiy and a number of other rayons have stepped forward with a patriotic initiative--to produce 40 quintals of grain

per hectare. As a whole the farmers of the republic decided to surpass last year's achievement of producing over 1,200,000 tons of grain. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Jun 80 p 1] 8228

GRAINS MATURED--Tashkent, 16 Jun 80--Grains have matured on the large area of Gallya-Aral ("Grain island") in Dzhizakskaya Steppe of Uzbekistan. First to enter the fields were the mechanized detachments of the Sovkhoz imeni Gafur Gulyam. On the first day they completed the promised amount of work--grains were harvested on an area surpassing 800 hectares. This year the grain farmers of Uzbekistan plan to produce the largest grain harvest in their history--3 million tons of grain. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 17 Jun 80 p 1] 8228

PREPAREDNESS FOR HARVEST--Little time is left before the beginning of mass harvesting. Kolkhozes and sovkhoses are actively preparing for harvesting during the last year of the five-year plan. Grain farmers are making every effort to complete the work in a shorter period of time and without losses. V. Svyatko, deputy director of the kray agricultural administration, spoke to our reporter about how the Kuban' has prepared for the new harvest. "People say that the harvest is that which is in the granaries. It is not enough to cultivate a harvest, each ear must be harvested quickly and without losses. What is required here is a high degree of organization and precise work in all links of the "field-threshing floor-elevator" harvesting chain. In recent years our grain farmers have acquired a great deal of experience. Whereas during the last five-year plan it took almost an entire month to harvest grains now the work is completed in 7-9 days because of the overall use of harvesting complexes. Now almost all operations are conducted by mechanized detachments which include several links--for harvesting, for cutting grains in windrows, for threshing and for harvesting straw. This enables us to sharply raise the productivity of labor and to maneuver technology flexibly. This year Kuban' farmers will harvest grains from 1,722,000 hectares. Kolkhozes and sovkhoses have created over 500 harvesting-transport complexes and about 900 detachments. The agricultural workers of the Kuban' have obliged themselves to produce 37-38 quintals of grain per hectare during the last year of the five-year plan, to produce 9.5-10 million tons of grain, including 1,100,000 tons of rice, and to sell the state 90 percent only strong and valuable wheats. Kray farmers will do everything possible to overfulfill their obligations and to worthily meet the 26th congress of our party. [Excerpts] [Moscow TRUD in Russian 12 Jun 80 p 1] 8228

CSO: 1824

LIVESTOCK FEED PROCUREMENT

KIRGIZSTAN LIVESTOCKMEN URGED TO INCLUDE BURNET IN RATIONS

[Editorial Report] In Frunze SEL'SKOYE KHOZYAYSTVO KIRGIZII in Russian No 5, May 80 pp 28-29 the Kirgizstan agricultural journal calls the attention of livestockmen to the advantages of including burnet (Chernogolovnik [Poterium]) in livestock feed rations. Burnet provides needed variety to cattle rations, without which productivity is negatively affected. An additive is needed among grass mixtures to satisfy dietetic, disinfectant and preventive medicinal needs in cattle, burnet is a grass satisfying these requirements. It improves the edibility of other feeds while prominently exhibiting bactericidal, phytocidal and other properties. Burnet is winter hardy; in Kirgizstan it stays green all winter. It is drought resistant but produces a large amount of green mass only with sufficient moisture. It may be fed in pure form and in grass mixtures. The addition of burnet to the feed of young chicks prevents such diseases as xerophthalmia.

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LIVESTOCK FEED PROCUREMENT

BRIEFS

MILK VEITCH USED--Tashkent SEL'SKOYE KHOZYAYSTVO UZBEKISTANA in Russian No 4, Apr 80 p 36 carries a short article on the advantages of utilizing Khiva milk veitch [Astragal Khivinskiy] in apiculture. However toward the end of the article the author mentions other possible uses for Khiva milk veitch including that of livestock feed: "Khiva milk veitch is not a bad feed plant. It is eaten throughout the entire summer by sheep, goats and other livestock. It keeps well in the winter. The feed supply of its green mass comprises an essential part of the feed balance on natural pastures in the Kyzylkum and Karakum.... Khiva milk veitch can be recommended for introduction into the sandy deserts of Central Asia." [Editorial Report]

PERKO, STRAW FOR TADZHIK LIVESTOCK--Dushanbe SEL'SKOYE KHOZYAYSTVO TADZHIKISTANA in Russian No 5, May 80 pp 42-43 devotes a page and a half article to preparation of silage from perko and straw. The article begins by explaining: "A new feed crop--perko, a hybrid of tetraploid winter rape and tetraploid Chinese cabbage, has an abundant leafy mass and possesses strong winter hardiness (at a temperature of 20 degrees below zero the central bud does not freeze). With the presence of moisture in the soil seeds sprout very rapidly with maximum germination (85%). Thanks to its winter hardiness and rapid growth this crop is becoming wide spread in the Soviet Union. Perko was sown in Tadzhikistan for the first time in the fall of 1978. Perko is sown in the fall and cut in the spring at the beginning of the flowering phase, when the stem mass contains little cellulose. This is a lactiferous crop, possessing a sweet taste and readily eaten by livestock. The remainder of the article is devoted to experiments to establish optimum straw and moisture contents in the resultant silage. [Editorial Report]

CSO: 1824

LIVESTOCK

REGIONAL SPECIALIZATION OF AGRICULTURAL PRODUCTION DISCUSSED

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 4, Apr 8. pp 35-40

[Article by Dmitri Filippovich Vermel', professor, doctor of economic sciences, director of the division of optimization and distribution of agriculture and the processing industry of the All-Union Scientific Research Institute of Agricultural Economics, Nikolay Kuz'mich Knyazev, candidate of agricultural sciences, director of the sector of optimization and distribution of animal husbandry sectors of the All-Union Scientific Research Institute of Agricultural Economics, and Vladimir Ivanovich Kuznetsov, candidate of economic sciences, director of the sector for forecasting the development of agriculture of the All-Union Scientific Research Institute of Agricultural Economics: "Regional Specialization of Production"]

[Text] Improvement in the distribution of productive forces and intensification of regional specialization are major potentials for increasing the efficiency of socialist production. A solution of these problems is especially important for agriculture, whose efficiency is largely determined by zonal, natural and economic conditions.

V. I. Lenin played a fundamentally important role in the scientific development and practical realization of the improvement in the interregional division of labor. He established that "the territorial division of labor and the specialization of some regions in the production of one product, sometimes one kind of product and even a certain part of the product... was directly connected with the division of labor in general."¹

V. I. Lenin defined both the common nature of the process of specialization in the national economy and its characteristics in agricultural production. Describing the common features of the development of commodity production, he noted that "the process of specialization that separates various types of processing of products one from another, creating an ever greater number of industrial sectors, is also manifested in farming, creating specialized farming regions (and farming systems) and producing an exchange among various agricultural products, not only between the products of farming and industry."²

Studying the transformation of agricultural production into commodity production under the conditions of the development of capitalism, V. I. Lenin stressed that it "... occurs in a special way not resembling the corresponding process in industry. The processing industry splits into separate, completely independent sectors devoted exclusively to the production of one product, or one part of the product. However, the agricultural industry does not split into completely separate sectors, but only specializes in the production of one market product in one case and of another market product in another. The other aspects of agriculture adapt themselves to this main (that is, market) product."³

The indicated pattern of agricultural specialization also remains under present conditions. The transfer of some sectors to an industrial basis makes it possible to carry out the production of certain types of agricultural products in narrowly specialized enterprises. However, in the remaining agricultural production, both in individual enterprises and in the country's regions, there is a continuous need to combine the production of the main types of products with additional ones. Such a combination is an indispensable condition for a fuller utilization of land, labor, fodder and so forth.

Under the conditions of developed socialism the regional specialization of our country's agriculture, along with other economic and organizational measures, contributes to the implementation of the goal of "ensuring the full well-being and free all-around development of all the members of society"⁴ advanced by V. I. Lenin. The decree dated July (1978) of the Plenum of the CPSU Central Committee defined the urgent tasks of the country's agriculture connected with the attainment of this goal as "... an all-around dynamic development and a considerable increase in the efficiency of all its sectors and a reliable supply of food and agricultural raw materials for the country with a view to ensuring a further rise in the people's standard of living."

From the time of its foundation the All-Union Scientific Research Institute of Agricultural Economics in coordination with more than 80 scientific research institutions has carried out the scientific elaboration of the problem of distribution and regional specialization of agriculture in the country. K. P. Obolenskiy, corresponding member of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin, and N. P. Aleksandrov, academician of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin, were the scientific directors of the research on this problem during different periods. A. Ye. Kaminskiy, doctor of economic sciences, B. F. Labenets, candidate of economic sciences, and others actively participated in its elaboration.

Improvement in regional specialization is made in two main directions. A fuller utilization of the bioclimatic potential and of land, labor, fodder and other resources through the preferential development in every region of the sectors for which the conditions are most favorable there is one of them. The concentration of the production of certain types of products in appropriate regions determines the further development of interregional exchange. Self-provision as a result of the maximum possible utilization of resources for meeting the needs for a number of items is another direction in the specialization of some regions. These tasks were thoroughly substantiated by Comrade L. I. Brezhnev in his speeches and discussions during his trip to the regions of Siberia and the Far East and in his report at the July (1978) Plenum of the CPSU Central Committee.

Let us examine how specialization is carried out in the indicated directions in some plant growing and animal husbandry sectors and in the country's basic regions. Singling out regions specialized in the production of certain types of products intended for interregional exchange is especially characteristic for the development of plant growing sectors.

Plant growing is the primary sector that directly transforms natural resources into an organic mass of agricultural output. Therefore, in the regional specialization of plant growing sectors the effect of natural environmental factors, which for all agricultural crops, except for green crops in sheltered ground vegetable growing, are characterized by certain ranges, is taken into consideration to a greater extent than in animal husbandry.

In our country some agricultural crops are cultivated on very limited ranges (cotton, essential oil crops, soybeans, grapes, tea, citrus fruits, corn and so forth). In this case regional specialization solves the problem of most fully meeting the country's needs for the output of these crops through the maximum utilization of the resources of the appropriate range for the purpose of accomplishing the task "... of independently providing ourselves with all the main types of raw materials..." set by V. I. Lenin.⁵ Under present conditions this problem is solved jointly with the countries of the socialist camp.

The advisability of the concentration of the production of industrial, vegetable and fruit crops and grapes in regions most favorable in their natural and economic conditions increases in connection with the prospects for agroindustrial integration.

For entire sectors (viticulture, horticulture and vegetable growing in the zones of the canning industry and the production of sugar beets and essential oil crops) the establishment of agroindustrial enterprises and associations becomes the basic form of connection of agriculture with industry and one of the important directions in the realization of V. I. Lenin's ideas of a rational distribution of industry "... from the point of view of the proximity of raw materials and the possibility of the slightest loss

of labor during the transition from the processing of raw materials to all the subsequent stages in the processing of semifinished products, including the production of the finished product."⁶

In regions with favorable conditions for the cultivation of a number of agricultural crops it is necessary to solve the problem as to which should be given preference. For example, the problem of displacement of grain crops from the irrigated land of Central Asia by cotton was solved radically during the first five-year plans.

In the future it is advisable to expand the areas sown with corn within its range with the displacement of other fodder crops and in a number of regions, the areas sown with soybeans, heat loving vegetable and fruit crops and grapes.

Some industrial crops are placed on a very vast territory with diverse natural conditions (sugar beets, sunflowers and flax). Thus, sugar beets, for their processing into sugar, are cultivated in 10 Union republics. With respect to these crops it is also advisable to more fully utilize the possibilities of concentrating their production in regions with the most favorable conditions.

On the average, in the Tsentral'nyy, Volgo-Vyatskiy and Zapadno-Sibirskiy economic regions in 1976-1978 the output of the end product--sugar--per hectare was lowered to two-fifths as compared with that in the Ukrainian SSR and the Moldavian SSR and its production costs were 2.6 to 3.4 times as high. The calculations for the combination of sectors for the future show the possibilities of increasing the proportion of the Ukraine, Moldavia and other regions with more favorable conditions in the production of sugar beets. Such a shift in the areas sown with sugar beets will make it possible to increase the gross output of roots by 3.3 million tons worth 104.7 million rubles and to lower production costs by 32.6 million rubles and the need for fixed capital, by 43.8 million rubles, for fertilizers, by 2.8 million rubles and for labor expenditures, by 787,000 man-days.⁷

In the future it is also advisable to continue the production concentration carried out during the 10th Five-Year Plan in regions most favorable in natural conditions for the production of tomatoes on open ground and in hothouses and of onions and on the basis of interregional exchange to increase an economically expedient delivery of potatoes to the Severo-Kavkazskiy, Zakavkazskiy and Sredneasiatskiy economic regions. The further movement of the production of fruit and berry products to the country's southern regions, that is, to the Severo-Kavkazskiy Economic Region, the Moldavian SSR, the Ukrainian SSR, the Central Asian republics and the southern regions of the Kazakh SSR, is also highly efficient.

Grain production is distributed on almost the entire territory of the country where farming is developed. Therefore, improvement in the regional specialization of grain production is made not by moving it from some zones to others, but primarily by concentrating the areas sown with some food, hulled and fodder grain crops in zones with the most favorable conditions.

The specialization of grain production is greatly affected by a change in the structure of the need for it toward an increase in the proportion of its fodder part. In the future it is advisable to concentrate the production of the basic food crop--wheat--in regions with the most favorable natural conditions for the production of high harvests with low production costs (North Caucasus and the Ukraine), as well as in regions where with lower harvests the production of high-quality grain of durum and strong wheat is ensured (Kazakhstan and the Volga area).

The development of reclamation in the regions of North Caucasus, Central Asia and the Ukrainian SSR makes it possible to increase the area sown with rice to sizes basically ensuring the country's needs. Calculations also show the possibility of a significant expansion of the areas sown with corn in the forest-steppe and steppe zones of the Ukrainian SSR, in Moldavia, on the irrigated land of the Volga area, Central Asia and the Transcaucasian republics and in Kazakhstan.

Under the severe natural conditions of the European North, Siberia and the Far East in the future the urban population should also be provided with vegetables as a result of the cultivation of cold resistant crops there and a general development of sheltered ground vegetable growing. It is necessary to more widely utilize the possibilities of local potato production, assigning specialized zones and farms for this purpose.

The fullest description of the regional specialization of agriculture can be made by means of the indicators of per-capita production of certain products in a region used by V. I. Lenin in his work "Razvitiye Kapitalizma v Rossii" /Development of Capitalism in Russia/. The coefficients of specialization calculated for the Union republics, which were proposed by M. N. Makeyenko (table 1), correspond to this indicator reflecting the regional specialization of plant growing sectors from the point of view of the all-Union division of labor.⁸ These coefficients represent the ratio of a region's proportion in the production of a given type of gross product to its share in the country's population. They describe in per-capita terms the regional possibilities of self-provision and delivery of products to the all-Union stock.

For example, the proportion of the Kazakh SSR in grain production in the country in 1971-1975 was 11.9 and in the country's population, 5.5. Hence the coefficient of specialization is 2.2 (11.9:5.5) and in the Turkmen SSR, 0.08, 0.96 and 0.1 (0.08:0.96) respectively.

The data cited reflect the especially significant role of the Kazakh SSR in meeting the country's needs for grain. This republic not only holds the first place in the country in the per-capita production and export of wheat, but produces the cheapest grain in terms of units of high quality.

Table 1

Coefficient of Specialization of Republics in Plant Growing Output

	Grain		Cotton		Sugar Beets		Vegetables		Fruits	
	1971-1976	1976-1978	1971-1976	1976-1978	1971-1976	1976-1978	1971-1976	1976-1978	1971-1976	1976-1978
	1975	1978	1975	1978	1975	1978	1975	1978	1975	1978
RSFSR	1.1	1.1	--	--	0.5	0.6	0.8	0.7	0.5	0.5
Ukrainian SSR	1.1	1.2	--	--	3.1	3.2	1.5	1.6	1.7	1.6
Belorussian SSR	0.8	0.9	--	--	0.4	0.4	0.9	0.8	1.4	1.4
Uzbek SSR	0.1	0.2	12.0	11.4	--	--	0.9	1.3	1.1	1.2
Kazakh SSR	2.2	2.1	0.7	0.6	--	--	0.7	0.7	0.4	0.5
Georgian SSR	0.2	0.2	--	--	0.1	0.1	0.8	1.0	2.8	3.3
Azerbaijan SSR	0.2	0.2	2.6	2.8	--	--	1.1	1.4	0.8	1.0
Lithuanian SSR	1.0	1.0	--	--	0.8	0.6	1.2	0.8	1.5	1.7
Moldavian SSR	0.9	0.9	--	--	2.5	2.3	2.5	2.9	6.5	5.8
Latvian SSR	0.7	0.7	--	--	0.3	0.3	1.0	0.7	0.7	1.8
Kirgiz SSR	0.5	0.5	2.1	1.9	1.8	1.4	0.9	0.9	1.2	1.4
Tadzhik SSR	0.1	0.1	8.2	7.3	--	--	0.8	0.9	2.0	1.8
Armenian SSR	0.2	0.1	--	--	0.2	0.2	1.4	1.6	1.4	1.5
Turkmen SSR	0.1	0.1	13.8	12.7	0.5	0.4	0.8	1.0	0.4	0.3
Estonian SSR	0.9	0.9	--	--	--	--	1.0	0.5	0.9	1.2

Coefficients of specialization show the prominent place in the all-Union division of labor of the Uzbek SSR and the Turkmen SSR in the production of cotton, of the Ukrainian SSR, the Moldavian SSR and the Kirgiz SSR in the production of sugar beets, of the Ukrainian SSR, the Moldavian SSR, the Armenian SSR and the Azerbaijan SSR in the production of vegetables and of the Moldavian SSR, the Georgian SSR and the Ukrainian SSR in the production of fruits.

The population's needs for not easily transportable output of animal husbandry, regional volumes of fodder resources and their structure, territorial differences in the economic efficiency of output and the specific nature of sectors and of the obtained product are the basic factors determining the regional specialization of animal husbandry sectors.

In the proportion of the production of milk consumed in the form of whole-milk products the zonal standards of consumption of this output and the distribution of the population are the decisive factor in every region. This part of the milk even in zones unfavorable for dairy farming must be produced in relative proximity to the places of consumption. Calculations have shown that the total expenditures on milk produced in favorable zones, for example, in the Baltic region and Belorussia, and transported from there in the form of milk powder to regions with unfavorable conditions, for example, the Central Asian and Transcaucasian republics, are equal to or higher than the sectorial production expenditures on local farms. In addition to this, the quality of milk deteriorates considerably in the process of its drying, storage, transportation and regeneration.

At the same time, an increase in milk production in southern regions to volumes meeting the population's needs for all dairy products (including cheeses and butter) would lead to an increase in the proportion of the areas sown with fodder crops to 80 or 90 percent of the available area of arable land. This would make the production of heat loving crops intended for interregional exchange impossible. The production of transportable dairy products there is also inadvisable in connection with the high production costs of milk.

Even the transfer of milk production to an industrial basis does not change significantly the situation in the Transcaucasian and Central Asian republics and in the regions of East Siberia and the Far East. As compared with other zones, the productivity of cows at the complexes there is the lowest and the production costs of milk are the highest (table 2, 1978).

Table 2

	<u>On the average on sovkhoses</u>			<u>Including at complexes</u>		
	milk yield per cow, kg	labor expend- itures per quin- tal of milk, man- hours	produc- tion costs per quin- tal of milk, rubles	milk yield per cow, kg	labor expend- itures per quin- tal of milk, man- hours	produc- tion costs per quin- tal of milk, rubles
USSR	2396	7.5	27.25	2738	5.20	27.77
Georgian SSR	1653	14.7	33.98	2290	8.18	41.63
Azerbaijan SSR	1666	14.7	32.02	2764	7.38	25.34
Armenian SSR	1848	12.7	30.11	3269	3.77	24.00
Uzbek SSR	2259	10.3	30.91	2894	6.64	26.98
Tadzhik SSR	1917	12.9	31.09	2383	9.53	29.34
Turkmen SSR	2070	7.6	30.21	2382	5.27	32.34
East Siberia	2261	10.2	30.78	2360	7.5	33.61
Far East	2154	8.6	44.75	2428	5.4	43.01

Thus, in zones unfavorable for milk production it is advisable to produce only the part of the product consumed in fresh form. Specialization in the production of milk used for the output of products withstanding long storage and transportation over considerable distances should be carried out in regions with more favorable conditions.

The nonchernozem zone of the country's European part, the Tsentral'no-Chernozemnyy Region, forest-steppe oblasts of the Ukrainian SSR and West Siberia will also remain the basic zones of specialization in the production of commodity milk in the future. The greatest absolute increases in production should be envisaged there. Along with this, high rates of growth of milk production are necessary in the Transcaucasian and Central Asian republics. This will make it possible to meet the needs of the local population for whole-milk products during the next five-year period. Such a

nature of distribution of livestock breeding enables the country's kol-khozes and sovkhoses to produce the necessary volume of milk with smaller expenditures of labor and funds as compared with the variant of full self-provision of every economic region with all dairy products. These standard annual savings on labor will total 354 million man-hours, on capital investments, 2.1 billion rubles and on annual production expenditures, about 1 billion rubles.

Regional specialization in beef production is connected in large measure with the distribution of dairy farming. Under present conditions the livestock of dairy, dairy-meat and meat-dairy breeds produces more than 95 percent of the beef. The culling of milk cows alone produces up to 25 percent of the beef. The role of the country's nonchernozem zone as the basic producer of beef, not only of milk, will continue in the future. An increase in the productivity of cows to 3,000 kg of milk will make it possible to stabilize their number, which will also lead to the stabilization of the meat resources of dairy and dairy-beef husbandry.

Therefore, to increase beef production, it will be necessary to develop beef husbandry, in which the farms of the Povolzhskiy, Severo-Kavkazskiy, Zapadno-Sibirskiy and Vostochno-Sibirskiy economic regions, the Central Asian republics (with the exception of Turkmenia), Kazakhstan and the Ukraine should specialize.

The distribution of hog breeding, which determines regional specialization, is based on the need to more fully meet the population's requirements for fresh pork from local production and on the utilization by means of hog breeding of the food waste of the population and public dining. The further development of this sector in some nongrain zones (the Baltic republics and the Belorussian SSR) with a high population density is also advisable. Hog breeding for meat and bacon, traditionally formed there, will utilize relatively cheap potatoes, the waste of milk processing and locally produced low-quality grain.

In a number of other regions bringing the production of pork closer to the places of its consumption for the purpose of obtaining fresh meat is ensured by the sector's transfer to an industrial basis. The lowest production costs of hog breeding output in enterprises on an industrial basis are attained in zones with a developed mixed feed industry, not in the country's grain regions.

Regions with resources of cheap fodder grain should specialize in the production of pork for the purpose of reprocessing it into smoked and canned food and transportable cooked meats and of transporting frozen meat. From grain production regions it is cheaper to deliver transportable products of pork processing and frozen meat to the zones of their consumption than an equivalent amount of a

Therefore, specialization in the production of pork for the purpose of delivering it to the Union stock is advisable in the Tsentral'no-Chernozemnyy and Povolzhskiy economic regions, the Ukrainian SSR, Belorussia and the Baltic region. At the same time, it is necessary to increase pork production in the Ural'skiy, Zapadno-Sibirskiy and Vostochno-Sibirskiy economic regions in connection with the significant increase in the population and in the needs for fresh and chilled pork.

Such a variant of development of hog breeding differentiated throughout regions, as compared with full self-provision, will make it possible to lower the expenditures of labor by 2.2 million man-hours, of funds, by 381 million rubles and of capital investments, by 304 million rubles.

Under present conditions the economic efficiency of egg and poultry production is determined by the degree of mastering industrial methods of production management, not by natural factors. Therefore, as calculations show, it is cheaper to transport grain than eggs and poultry from grain regions to the places of consumption of poultry products.

On the basis of a general construction of poultry farms in the country a significant equalization of the level of egg production throughout the Union republics and economic regions of the RSFSR has already been attained. Whereas in 1965 the highest level of egg production was in the country's traditional grain regions, by 1978 these differences were reduced to a minimum. In the future egg production should develop on the basis of a general development of the mixed feed industry and construction of egg farms in relative proximity to the places of consumption.

As investigations have shown, the broiler industry should also be developed in all the country's regions. When broiler farms are concentrated in the country's southern regions and meat is transported to central, densely populated regions, the capital investment gain is completely lost owing to the high expenditures on transportation and the loss of the quality of output.

In connection with this there will be a certain decline in the proportion of traditional poultry breeding regions in the zones of developed grain production with an absolute growth of production volumes in them and the share of the Severo-Zapadnyy, Zapadno-Sibirskiy and Vostochno-Sibirskiy economic regions, Central Asia and the Transcaucasus will rise.

The specialization of certain regions in the production of sheep breeding products is based mainly on the maximum utilization of cheap pasture fodder on the vast territories of dry steppe, semisteppe and semidesert and desert fodder land. At the same time, it is necessary to intensify the specialization of regions and farms in the production of sheep breeding products as a result of an increase in the population of some sheep breeds (Romanov, Karakul and so forth) in the zones of their local distribution.

The specialization of the Union republics in the production of livestock products (table 3) is characterized by the significant role of the Baltic republics and the Belorussian SSR in the interregional exchange of the products of milk and meat processing, of the Ukrainian SSR and the Kazakh SSR, of meat and of the Kirgiz SSR, the Kazakh SSR and the Turkmen SSR, of wool. The Transcaucasian and Central Asian republics with their plant growing regional specialization are characterized by a lower level of per-capita milk and meat production, as compared with the country's other regions.

Table 3

	Coefficient of Specialization							
	Milk		Eggs		Wool		Meat	
	1971-1975	1976-1978	1971-1975	1976-1978	1971-1975	1976-1978	1971-1975	1976-1978
RSFSR	1.01	0.99	1.10	1.11	0.93	0.92	0.96	0.95
Ukrainian SSR	1.21	1.25	1.13	1.13	0.31	0.32	1.21	1.23
Belorussian SSR	1.76	1.84	1.22	1.22	0.07	0.07	1.51	1.62
Uzbek SSR	0.34	0.35	0.42	0.37	1.00	0.98	0.32	0.33
Kazakh SSR	0.84	0.82	0.85	0.91	4.29	4.11	1.27	1.20
Georgian SSR	0.30	0.34	0.47	0.51	0.60	0.63	0.44	0.49
Azerbaijan SSR	0.30	0.33	0.44	0.45	0.91	0.96	0.34	0.36
Lithuanian SSR	2.31	2.31	1.23	1.15	0.05	0.03	2.38	2.46
Moldavian SSR	0.67	0.80	0.80	0.80	0.40	0.35	1.00	1.07
Latvian SSR	2.00	1.98	1.20	1.25	0.16	0.14	0.70	1.88
Kirgiz SSR	0.52	0.52	0.48	0.51	5.23	5.31	0.77	0.77
Tadzhik SSR	0.31	0.33	0.28	0.33	0.85	0.86	0.41	0.44
Armenian SSR	0.46	0.45	0.60	0.59	1.00	0.91	0.44	0.47
Turkmen SSR	0.26	0.29	0.32	0.36	3.33	3.20	0.47	0.50
Estonian SSR	2.14	2.24	1.50	1.31	0.16	0.14	0.96	2.07

The prospects for the sectorial structure of agriculture of the Union republics and economic regions determine the development of regional specialization in the production of certain types of products.

The agriculture of a Union republic or an economic region represents a single territorial-sectorial complex, not a mechanical sum of the appropriate sectors. The trends in its development are determined by the combination of regional conditions of production management, on the one hand, and by the national economic function of agriculture of every region in the all-Union territorial division of labor, on the other.

In connection with this, when substantiating the trends in improvement in the regional specialization of agriculture, it is necessary to rationally combine sectorial and territorial approaches.

Under present conditions this problem is solved by economic and mathematical modeling--the development by means of computers of an optimization model of the territorial and sectorial structure of agriculture.

An economic and mathematical model with a matrix of a diagonal block structure is used in the studies of the All-Union Scientific Research Institute of Agricultural Economics for this purpose. The conditions of functioning of territorial and sectorial complexes are described in regional blocks unified by a coordinating block, which reflects general sectorial conditions and tasks.

Improvement in the regional specialization of agriculture is an overall problem. Its solution is connected with the scientific development and implementation of measures for the strengthening of the material and technical base of agricultural production, distribution and utilization of labor resources, development and location of the processing industry and transport, improvement in the economic mechanism in the agroindustrial complex of some regions and solution of social problems of rural areas.

FOOTNOTES

1. V. I. Lenin, "Poln. Sobr. Soch." [Complete Works], Vol 3, p 431.
2. Ibid, pp 22-23
3. Ibid, pp 308-309.
4. V. I. Lenin, "Poln. Sobr. Soch.," Vol 6, p 232.
5. V. I. Lenin, "Poln. Sobr. Soch.," Vol 36, p 228
6. Ibid, p 228.
7. According to V. A. Smirnova's calculations.
8. M. M. Makeyenko, "Spetsializatsiya Moldavskoy SSR v Obshchesoyuznom Razdelenii Truda" [Specialization of the Moldavian SSR in the All-Union Division of Labor], Kishinev, 1966.

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LIVESTOCK

ARTICLES DISCUSS HORSE RAISING IN USSR, RSFSR

Importance of Horse Raising

Saratov STEPNYYE PROSTORY in Russian No 9, Sep 79 pp 50-51

[Article by Yu. M. Rastegayev, candidate of veterinary sciences, and V. S. Ton'shin, chief veterinary physician of Mokshanskiy Rayon, Penzenskaya Oblast: "Large Benefit at Small Cost"]

[Text] Horse raising has no small national economic importance in the country's economy. It is sufficient to say that the number of horses now in the country's agriculture is equivalent to 200,000-250,000 15-HP tractors. But the horse is more than a draft animal. Its blood is used to prepare sera and vaccines against tetanus, anthrax, diphtheria and other diseases. The curative power of the beverage of Bogatyr'--koumiss [fermented mare's milk]--is also well known. The horse also produces natural gastric juice, pregnant mare's serum, pregnant mare's blood, as well as a number of other biological preparations which stimulate fertility, growth and fattening of agricultural animals. Horse raising is also taking on ever greater importance for purposes of sports, tourism and riding.

In recent years there has been a sizable increase in consumption of horsemeat for food in many countries of the world, including the Soviet Union.

There are now plans to develop the raising of horses for meat and milk intensively. Higher purchase prices have been set for horses sold to the state for meat. This is creating conditions favorable to profitable management of this branch.

The number of herd horses for meat in the country has increased in recent years from 1,025,200 to 1,144,700 head. The production and procurement of horsemeat has increased. In the Ninth Five-Year Plan the production of horsemeat was about 50,000 tons, which is approximately 2.9-fold higher than the 1965 level. Large horse-raising sovkhozes and horse-raising operations are being created to accommodate 2,000-3,000 mares. Specialized fattening operations now exist, where in 60-70 days horses are fed up to a meat finish.

The scale of development of horse raising for meat and the purchases of horses for meat, which are larger every year, are indicated by the fact that the All-Union Scientific Research Institute of Horse Raising and the All-Union Scientific Research Institute of the Meat Industry have drafted a new GOST [State Standard] 20079 "Horses for Slaughter" and technical specifications for new types of high-quality foodstuffs from horsemeat. For instance, specialists have given high marks to the quality canned products "Antrekot" [Entrecote], "Myaso delikatesnoye" [Specialty Meat], "Gulyash" [Goulash], "Rulet" [Horsemeat Sausages], "Myaso zherebyat v zhele" [Colt's Meat in Gelatin], and the "Batyrskaya" smoked sausage, whose recipe consists of 75 percent horsemeat and 25 percent lard.

Usually the production of horsemeat is combined nicely with the production of koumiss--a valuable dietetic and curative product and a beverage loved by many peoples. Koumiss has extensive use in medicine and veterinary science.

Bashkiria is one of the oldest centers of koumiss-making and the cradle of curative treatment with koumiss. Here the raising of horses for koumiss production is profitable. There are centers for treatment with koumiss which have national importance: Shafranovo, Alkino, Glukhovskaya, the center imeni Chekhov, the center imeni Aksakov, and Yumatovo. Wide use is made of koumiss in sanatoriums of the general type, in preventoriums and in rest houses.

There are two types of koumiss operations in the republic. Stationary operations where koumiss is produced year-round and where the marketed output of the mares averages between 1,000 and 1,200 kg of milk (saumal), and seasonal operations where the mares are milked during the summer months and yield 400-750 kg of milk on the average.

The production of koumiss does not have an adverse effect on development of the foals. On the Shafranovo Sovkhoz, which has the oldest koumiss operation, having been organized back in 1923, they annually obtain 230-260 tons of koumiss from 216 milking mares. The average production per mare in a lactation period is 1,068 kg, and for a mare of the Bashkir breed it is 2,000-2,500 kg.

Spray drying of summer surpluses of mare's milk has been organized at the Rayevskiy Oil Mill in Bashkiria. The Ufa Horse Farm supplies koumiss to the republic's capital--Ufa. There they obtain 875 rubles of income per mare, and the operation is profitable.

The raising of horses for meat and milk has been developed rather extensively in the oblasts and autonomous republics of the Volga region. To be specific, the raising of horses in herds is widespread in the Bashkirskaya, Kalmytskaya and Tatarskaya ASSR's, in Volgogradskaya Oblast and in certain rayons of Astrakhanskaya and Saratovskaya oblasts. A sizable number of meat horses are sent for slaughter. For instance, in 1976 and 1977

packinghouses of Kalmytskaya ASSR received 18,400 head, those of Bashkirskaya ASSR 17,500, those of Tatarskaya ASSR 15,900, and those of Volgogradskaya Oblast 14,500. A sizable number of meat horses have been procured in Astakhanskaya, Saratovskaya, Penzenskaya and a number of other oblasts in the zone. The quality of the horses sent for slaughter is extremely unsatisfactory, however, both in terms of finish and also in terms of weight conditions. For instance, in Bashkirskaya ASSR only 29.5 percent of the animals procured were at high and average level of nourishment, while the rest were below average and thin. This same ratio was 27.2 percent for Kalmytskaya ASSR, 24.3 percent for Tatarskaya ASSR, and 22.1 percent for Penzenskaya Oblast. Average delivery weight per head has been 310 kg in Bashkiria and Kalmykia, 315 in Tataria, and 328 kg in Penzenskaya Oblast.

As research has shown, the small weight gain in the feeding and raising of horses and also the unsatisfactory degree of nourishment depend not only on improper organization of the pasturing and fattening of the animals, but also on their massive infection with the larvae of flies of the nasal passages (rhinoestrosis) and stomach (gasterophilosis), and also intestinal helminthoses (parascarisidosis, strongylosis and oxyuriasis). The incidence of these diseases in horses is extremely high. As shown by an examination of the intestinal tract and nasal cavity of horses slaughtered for meat at the Penza, Kuznetsk, Serdobsk and Kazansk meatpacking plants, their rate of infection with gasterophilosis was 95.1-100 percent and with rhinoestrosis 92.6-97.5 percent. Moreover, each horse harbored in its nasal cavity an average of 88 (from 26 to 398) larvae of the botfly, while the average in the gastrointestinal tract was 192 (from 65 to 1,021). The infection rate of horses with *Parascaris* worms (as a function of age) was 47-100 percent and with *Strongylus* worms and oxyurids 100 percent, and the number of helminths (all species) ranged from 42 to 161 specimens.

The presence of such a large number of parasites in the horse's organism does him tremendous harm. But at the present time no effective measures are taken to combat all these diseases. The reason is that the method of giving the horses capsules of carbon disulfide or carbon tetrachloride individually to combat gasterophilosis, which was recommended in the forties, is not only time-consuming, but also proved to be harmful to the animals. For that reason it is virtually not practiced, and there are no new methods.

Given the importance of this problem, we have developed an effective method of combating the larvae of botflies of the nasal cavity and stomach, and also intestinal helminths simultaneously, by means of random-group feeding of the horses chlorophos with their grain feed or hay. This method has been adopted on the farms of Mokshanskiy Rayon. More than 4,000 head have been treated in the last 2 years. The drug is administered in October and November. The method of administering it is as follows: chlorophos in powder form is mixed thoroughly with the mixed feed, and the hay or grain is sprinkled with a water solution (so that it does not become matted), and they are also thoroughly mixed. When these feeds are fed to the animals it

is important to bear in mind that the feeding area be sufficiently large and accessible to all the horses. The dose of the feed per animal is 1.0-1.5 kg.

Domestic chlorophos which is 97 percent on the basis of the active ingredients was used in the experiments in a dose of 40 mg/kg of the animal's weight. This dose of the preparation was administered for 2 days after the preparation had first been divided into two parts. Chlorophos was administered in the form of the powder, and it was also sprinkled on the grain or hay in a 5-percent aqueous solution. After the animals ate this feed, no deviations in the state of their health were noted whatsoever. The horses of the control groups received the regular feed ration.

A preliminary record on the effectiveness of administering the preparation was drawn up by counting the larvae of botflies and helminths in droppings. The final record on the effectiveness of the preparations was drawn up 3-4 months after the treatment. For that purpose the number of larvae of the botflies of the nasal cavity and stomach and also of helminths in the digestive tract were counted in the horses slaughtered in packing plants (163 from the treated group and 40 from the control group). Following statistical processing of the digital data the effectiveness of administering chlorophos was obtained (Table 1).

Table 1. Effectiveness of Voluntary Administration of Chlorophos To Combat Gasterophilosis and Rhinoestrosis in Horses

	Group of Animals	
	<u>Experimental</u>	<u>Control</u>
Effectiveness against gasterophilosis		
Horses treated and then slaughtered	163.0	40
Number of head infected	10.0	40
Total number of larvae	359.0	9,629
IE [expansion unknown], %	99.2	--
EE [expansion unknown], %	93.9	--
Effectiveness against rhinoestrosis		
Horses treated and then slaughtered	163.0	40
Number of head infected	15.0	40
Total number of larvae	308.0	2,706
IE, %	99.2	--
EE, %	90.8	--

As we see, in a dose of 40 mg/kg chlorophos proved to be a highly effective preparation against gasterophilosis and rhinoestrosis in horses. It also completely cleared the intestine of the animals of *Parascaris*, *Strongylus* and oxyurids.

An experiment was run to study the influence of chlorophos treatment on the weight gain of horses. At the end of September (at the end of the flight

of the botfly) 8 horses (4 geldings and 4 mares) 2.5-3 years of age were for that purpose administered chlorophos with their grain feed in a dose of 40 mg/kg of body weight (Table 2).

Table 2. Influence of Chlorophos Treatments on the Weight Gain of Horses

	Group of Animals	
	Experimental	Control
Number of head	8	8
Age, in years	2.5-3	2.5-3
Average weight, in kg		
At the beginning of the experiment	200	202
At the end of the experiment	387	346
Average daily weight gain, in grams	625	480

The ration in the stall period consisted of hay and concentrates. The concentrated feeds accounted for 41 percent of the total nutrient value. The animals were given 7.1 fodder units per day and 710 grams of digestible protein. The experiment continued until the beginning of August of the following year, i.e., until the end of the emergence of the botfly larvae for pupation.

It was established that in the 10 months of the experiment the weight gain per animal was 41 kg higher per animal than in the control group. The economic benefit per 1,000 animals treated was 48,400 rubles on the basis of the additional weight gain and improved finish.

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Conditions of Horse Raising

Saratov STEPNYYE PROSTORY in Russian No 8, Aug 79 pp 58-59

[Text] The RSFSR Ministry of Agriculture has examined the condition of horse raising on the republic's kolkhozes and sovkhoses and takes note that in recent years agricultural agencies of many autonomous republics, krays and oblasts have unjustifiably paid less attention to this branch. In the 1976-1978 period the number of horses on kolkhozes and sovkhoses dropped 30 percent in Ivanovskaya Oblast, 27 percent in Smolenskaya, 25 percent in Tul'skaya and Yaroslavskaya, 23 percent in Kirovskaya and Vladimirskaia, 20 percent in Rostovskaya and Gor'kovskaya, 17 percent in Tambovskaya, 16 percent in Sverdlovskaya, 12 percent in Astrakhanskaya, 11 percent in Tuvinskaya ASSR and Altayskiy Kray, and 9 percent in Tatarskaya ASSR. The principal reasons for the drop in the horse population are the unsatisfactory state of their reproduction and maintenance and serious shortcomings in the use of horses. For instance, on farms of Yaroslavskaya, Novgorodskaya, Vologodskaya, Vladimirskaia, Ivanovskaya, Kostromskaya, Kalininskaya,

Lipetskaya and a number of other oblasts fewer than 20 foals are born annually per 100 mares. The loss and the stealing of the horses are also considerable. As a result of this attitude toward horse raising many kolkhoses and sovkholes are not meeting the need with respect to the size of their horse herds, nor are the needs being met for developing equestrian sports and for export, and raw materials are being made available in insufficient amounts for the food industry, the medical supply industry and the biological industry.

Kolkholes and sovkholes are not meeting requirements for the housing and feeding of animals, too little attention is paid to their use in work on the farm and when they are used on the private subsidiary plots of the rural population. In a number of cases unsatisfactory use of horses in farm operations has occurred because some kolkholes and sovkholes are not well furnished with vehicles and harness.

In order to increase the horse population and to make the fullest use of the potential of this branch it is indispensable that the main administrations and administrations of the ministry, all-Russian production associations and production-scientific associations, agriculture ministries of the autonomous republics, agricultural production administrations of kray executive committees and oblast executive committees examine the state of development of horse raising in each rayon and every kolkhoz and sovkhoz and take the necessary steps to increase the number of horses, to improve the reproduction and maintenance of the horse population; to organize greater utilization of the pedigreed stallions of kolkholes, sovkholes, state horse stables and breeding farms, to see that all mares are serviced, to sell for meat only mares unsuitable for reproduction which have been culled in the prescribed manner; to take up the proposal of local agricultural agencies to increase the horse population in the Volga region by the end of 1980 to 533,600 head, 160,600 mares, and 83,800 foals; to achieve a substantial improvement in the use of horses in farm work, transport and other work; to take the necessary steps to provide harness, vehicles and horse equipment to kolkholes and sovkholes. Sovkholes and other agricultural enterprises and organizations are to be sold vehicles and harness on the basis of written order, and this is not to be charged to the ceiling on small-scale transactions; and the feeding and housing of the horses is to be improved. In the 1979-1981 period papers are to be issued on all work horses, and they are to be branded. Stables are to undergo the necessary reconstruction and major repairs.

The agriculture ministries of Buryatskaya, Dagestanskaya, Kabardino-Balkarskaya, Kalmytskaya, Severo-Osetinskaya, Tuvinskaya, Checheno-Ingushskaya and Yakutskaya ASSR's, agricultural production administrations of Altayskiy and Krasnoyarskiy kray executive committees and of Astrakhanskaya, Orenburgskaya, Tyumenskaya, Chitinskaya, Adygeyskaya and Karachayevo-Cherkesskaya oblast executive committees are to take the necessary steps to speed up the development of horse raising for meat by increasing the number of herd horses, by increasing the proportion of mares in the herd, by setting

up large horse-raising operations and horse-raising sovkhoses, by organizing intensive pasturage and fattening before delivery of young meat animals for slaughter and adult horses which have been culled.

Agriculture ministers of the autonomous republics, chiefs of agricultural production administrations of kray executive committees and oblast executive committees are to set up a regular monitoring of the state of development of horse raising and to guarantee that all these recommendations are unconditionally carried out.

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LIVESTOCK

FUTURE OF THE BLACK-SPOTTED BREED

Minsk SEL'SKAYA GAZETA in Russian 4 Jan 80 p 2

[Article by M. Yusaytis, deputy director of the republic trust of breeding plants; K. Greblikas, correspondent of newspaper VAL'STECHYU LAYKRASHTIS: "The Future of the Black-Spotted Breed"]

[Text] The farms of the Lithuanian SSR produce 3,470 kilograms of milk with a fat content of 3.6 percent from cows of the Black-Spotted breed. Productivity grew noticeably during 1977, a year that was favorable for dairy farming. Milk yield increased by an average of 205 kilograms. In pedigree enterprises 4,341 kilograms of milk with a fat content of 3.88 percent were produced.

Eighty six milkmaids milked over 5,000 kilograms per Black-Spotted cow during that same year, and masters such as M. Klastaytene and Z. Lukshene of the Shilupe Kolchoz of Vilkavishskiy Rayon, milkmaids Ya. Shotik of the Vil'nyus State Horse Breeding Farm, and S. Petraytene of the Baysogal'skoye Experimental Enterprise of the Lithuanian NII [Scientific Research Institute] of Animal Husbandry--over 6,000 kilograms of milk.

The fat content of milk is also increasing. Whereas in 1975 the average indicator of fat content was 3.48 percent, in 1979 it surpassed the standard for the Black-Spotted breed.

With the goal of improving the herd of the Lithuanian Black-Spotted breed, Black Spotted bull sires were imported from Holland. As a result of the selection and removal of the best animals according to the productivity characteristics of the progeny, breeders in the republic were able to develop nine new related groups. Four of these have been recognized as new breed lines by the USSR Ministry of Agriculture. Over 60 percent of the bulls and about half of the cows in pedigree stock plants belong to the new lines and groups. The "Hollandization" of Lithuanian Black-Spotted cows raised their milk productivity by 947 kilograms and fat content in milk--by 0.17 percent. This also had a positive effect on the exterior of the animals, on the form of the udder and on the fattening and meat qualities of the animals.

Thus, at the control and experimental station of the Vil'nyus State Horse Breeding Farm, calves gain 1,028 grams per day and only 6.6 feed units are expended per 1 kilogram of weight gain. At the age of 15 months the weight of the calves reaches 450 kilograms.

To improve this breed in recent years the Danish Black-Spotted and the Holstein-Friesian breeds have been utilized because they meet the requirements of industrial animal husbandry better than the Dutch animals.

The effect of the Holstein-Friesian breed is being studied in the research facilities of the veterinary and agricultural academies, in the Baysogal'skoye Experimental Enterprise of the LitNII of Animal Husbandry, in the Sheshupe Sovkhoz of Shakayskiy Rayon, in the Taribu Letuva Kolkhoz and in the Pavasaris Kolkhoz of Kapsukskiy Rayon. The productivity of primipara heifers was particularly evident at the research facility of the veterinary academy and at the Baysogal'skoye Experimental Enterprise, where the intensive raising of pedigree heifers was organized. The daughters of Holstein bulls, named Kadugis and Klyavas, produced 5,325 kilograms of milk with a fat content of 3.8 percent, or 202 kilograms of milk fat, during 305 days of the first lactation. In other enterprises the productivity of Holstein progeny was somewhat lower, but nevertheless in milk yield they surpassed other primipara heifers by 392-645 kilograms. In all enterprises during the first lactation an average of 4,403 kilograms of milk with a fat content of 3.72 percent was produced.

Lithuanian Black-Spotted cows that have been improved by Danish breeds produce 4,366 kilograms of milk having a fat content of 3.81 percent in some enterprises of Kapsukskiy and Radvilishkiy rayons. This exceeds the indicators of other animals of the same age group by 347 kilograms.

Many descendants of the Holstein, Danish, Black-Spotted and Holstein-Friesian breeds are characterized by a bathtub-shaped udder with a proportional development of quarters. The front quarters contain 42-43.5 percent of the milk. In 1 minute 1.4-2.3 kilograms of milk are released. This kind of cow meets the requirements of machine milking.

According to the data on controlled fattening, the progeny of bulls from these breeds are characterized by rapid growth and good fattening qualities.

Thus, the initial results show that the crossing of animals of related breeds of various types on industrial farms and in complexes will enable us to better utilize the effect of heterosis. For pedigree stock it will be possible to develop types and lines of Lithuanian Black-Spotted animals that will be characterized not only by a greater productivity but by a better adaptation to the use of industrial technology.

New lines and types of Black-Spotted cows are developed systematically and their breeding is concentrated in individual breeding enterprises and farms. This enables workers to make provisions for good care for the calves, for full-value feeding and for insemination at the age of 17-18 months.

Of course there is no single prescribed way of developing the desired types and lines. Tests have been conducted in various variants while considering the individual qualities of the entire herd and of specific animals as well as the requirements placed before the enterprise. In other words, the future herd depends on the creative skill and resourcefulness of zootechnologists-breeders. Success is achieved by those breeders who have the best knowledge of the characteristics and qualities of the entire herd and of individual animals and who try to utilize it creatively.

While developing new types and lines of the Lithuanian Black-Spotted breed, the republic's breeders continue to give their attention to the animals being raised today. The progeny of the Danish Black-Spotted breed is expected to have a high milk productivity; the Holstein-Friesian mix--record milk yields. At the same time the Dutch Black-Spotted breed that is widespread here is characterized by adequate productivity, milk fat content and meat qualities. For this reason the republic is continuing the development of the "Hollandized" cattle, especially since the enterprises maintaining such cattle are producing two-thirds of the milk and beef that are produced in the republic.

Improving the pedigree qualities of the Black-Spotted herd and raising its productivity--these are the main aspects of the work of livestock farmers in the republic. The results that are achieved in this area will greatly affect the successful fulfillment of goals set for livestock farmers at the July Plenum of the CPSU Central Committee.

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LIVESTOCK

BRIEFS

KHABAROVSK KRAY AGRICULTURE SHORTCOMINGS--The Bureau of the Khabarovsk Kraykom and the Krayispolkom have discussed the question of increasing production and state purchases of milk, cattle and poultry in 1980. The adopted resolution notes that in the past 5 months of the year sovkhoses and kolkhozes of the Kray have increased the number of cattle and poultry by 5 percent and pigs by 11 percent, compared with a similar period of last year. While many sovkhoses and kolkhozes are meeting state plans, there are many who fall short of the existing opportunities and are slow in increasing the number of cattle and the productivity of cows, pigs and poultry. The bureau of the Kraykom and the Krayispolkom have devoted great attention to the matter of fodder procurement, noting that some farms have allowed unbearable sluggishness in the procurement of hay, haylage and vitaminous grass meal. [Khabarovsk Domestic Service in Russian 0930 GMT 21 Jun 80]

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REGIONAL DEVELOPMENT

PROGRESS OF LAND RECLAMATION, SOIL IMPROVEMENT IN KAZAKHSTAN DISCUSSED

Pasturage Flooding

Tselinograd FREUNDSCHAFT in German 27 May 80 p 2

[KasTAG report: "Liman Irrigation Beneficial"]

[Text] The crop farmers in the western regions of the republic are now carrying out massive flooding of limans and pastures. In the Ural delta the sovkhoses and kolkhozes of Guryevskaya Oblast have begun this work also. More than 40 pumping stations are directing 20 cubic meters of water per second to the pastures close to the river. In the course of this spring another 50,000 hectares of such land will be irrigated. At the same time vast liman areas were flooded.

In Guryevskaya, Aktyubinskaya and Uralskaya oblasts land reclamation has transformed vast areas of formerly drought plagued land into a zone of guaranteed crops. Thanks to the irrigation systems of Ural-Kushum, Miyaly and others which have begun operating in recent years, limans now cover more than 400,000 hectares--nearly half their area in the republic.

At the present time crop land with liman irrigation amounts to 885,000 hectares. About another 550,000 hectares of meadows and pastures are flooded.

The efficacy of the engineered liman system is great: They yield a harvest 3-5 times greater than natural bottom land pasture and hay meadows in dry valleys. In Aktyubinskaya Oblast the gross yield of hay on the limans accounts for up to 56 percent of the total, in Uralskaya Oblast for up to 55 percent, in Semipalatinskaya Oblast for up to 45 percent. In Guryevskaya Oblast engineered liman irrigation has been extended to 70,000 hectares. That is only one sixth of the hay meadows being harvested, but the gross yield of hay on the limans accounts for some 36 percent of the total.

These systems are particularly effective in the Amangeldy, Bersiyev and Numanov kolkhozes, Uilskiy Kray, Aktyubinskaya Oblast, and in some other sovkhoses and kolkhozes of the republic, which--in the course of several years--have harvested an average 25-30 decitons of hay per liman hectare and year. As a consequence they supply their own cattle and, with the surplus, that of other sovkhoses and kolkhozes.

The republic plans to raise the irrigation effect by the best possible utilization of the spring run-off, the observance of the flooding regime and the reconstruction of deep water-liman systems.

Minister Interviewed

Tselinograd FREUNDSCHAFT in German 31 May 80 p 1

[Report of KASTAG interview with A.A. Tynybayev, minister for land improvement and water management, Kazakh SSR]

[Text] In the years following the CPSU Central Committee May 1966 Plenum, which adopted the resolution "On the Far Reaching Development of Land Improvement for the Achievement of High and Stable Yields of Grain and Other Farm Crops" more than R5 billion have been invested in the construction of water supply systems. In that period of time 600,000 hectares of new irrigated land have been brought into service, and the present total is 1.9 million hectares.

Within the Soviet Union Kazakhstan ranks third in the extent of irrigation. Here 850,000 hectares of irrigated land were improved and more than 5,000 reinforced concrete lined canals constructed.

These figures were quoted by A.A. Tynybayev, minister for land improvement and water management of the Kazakh SSR, in a conversation with a KASTAG correspondent.

In recent years the following were constructed: The Chardara Dam, the Kysylkum irrigation system, the Kasalinsk waterworks complex, the Tashutkul Dam, the major irrigation systems of Basol, Akdala, Chingeldy and others.

Currently the length of the irrigation and rainage network amounts to 80,000 km, and more than 117,000 waterworks are located at the irrigation networks. The value of land improvement funds rose from R220 million in 1967 to R1.325 billion, in other words it has increased 6-fold. Nine thousand kilometers of water pipes were laid and taken into service; they supply water to 1,290 settlements in the republic.

In former times the construction of water systems concentrated on the southern and south eastern regions of the republic. Currently dams, reservoirs, minor and major irrigation systems are under construction in all regions.

Already completed are the automatic flow regulation at the Kysulkum Canal, the first expansion stage of the Georgiyevka irrigation system, the Talas Dam, the waterworks at the Kaskelen and Talgar rivers. Work is proceeding on the automation of the Tentek and Karatal irrigation systems as well as other projects. The farm enterprises in the republic now have available 14,500 irrigation facilities and 8,000 pumping stations. That is enough to irrigate about 500,000 hectares.

The speed of land improvement work, the transition to the construction of technically complete irrigation systems, the better utilization of irrigated land here ensured the stable growth of crop production and harvest yields. Yields per hectare of all crops rose from 11 decitons in 1962 to 30.6 tons in 1979; yields of corn from 21.1 decitons to 43 decitons.

Irrigated crop cultivation is particularly important for the provision of fodder stocks. At this time 775,000 hectares of regularly irrigated land growing feed crops yield 76 percent of all sugar beet, 31 percent of hay from perennial grasses and 17 percent of maize silage. In addition to the regularly irrigated land we have in our republic 871,000 hectares which are irrigated by the annual spring run-off. These lands provide the cheapest feed--a third of all the hay grown on Kazakhstan meadows.

In the last year of the Tenth Five-Year Plan period another 83,000 hectares of irrigated land are to be taken into cultivation, 3.9 million hectares of pasture irrigated, the condition of 17,500 hectares improved, 2,666 km of group water and supply lines constructed, and irrigation networks serving 68,000 hectares reconstructed.

In our republic 120,000 land improvement workers are employed in carrying out these assignments. They have at their disposal modern equipment and a wealth of experience and professional expertise.

Irtysh-Karaganda-Dzheskazgan Canal

Tselinograd FREUNDSCHAFT in German 15 Apr 80 p 2

[KasTAG report: "The Canal Is Moving South"]

[Text] Completion of the construction of the fifth pumping station on the Irtysh-Karaganda-Dzheskazgan Canal ended an important stage. The brigades of No 121 mechanized construction column of the Irtysh Kanalstroy administration finished concreting the foundation of the pumping station by a quick process.

If we look at the map, the tracks of the canal now under construction resemble a tree with many branches. Its trunk begins on the mighty Irtysh near Yermak. To the south canals and water lines are fanning out, form an oasis and meet the needs of the developing industrial centers. The second extension stage of the canal begins at Samarskoye Dam, near Temirtau. From this point on five high-capacity pumping stations are to elevate the life giving water to a height of 120 m. By way of an open canal bed it will flow to the Aktastinsky regulating dam, the largest one in the system, and by way of pipelines to the Dzheskazgan, Atasu and Shersky industrial regions. Mechanized columns construction a 300 km long hydraulic main are leveling the channel for the water.

Further south yet operates the Komsomol and youth brigade J. Bagbayev, part of the No 121 mobile mechanized column. For the 3rd year running this collective is in the lead in the competition of youth collectives in the regional administration; currently it is engaged in laying pipelines ahead of time. It is closely followed by the assembly workers of the V. Mazutny brigade from No 79 mobile mechanized column.

"Underground work at No 1 pumping station is near completion. At the same time we are assembling equipment for the high-voltage substation," says the brigade leader. Both these are advance projects. The speed of operation is greater, because every member of the brigade is capable of handling four or even five different jobs.

The Irtysh-Karaganda-Dzheskazgan Canal is more than a major construction project. It is also an outstanding experimental undertaking for handling an entire series of scientific-technological assignments.

L. Polezhayev, head of the Irtysh Kanalstroy administration says that "here many technological innovations in the construction of main canals were tested in the severe semi-desert conditions prevailing; subjected to these tests also were earth moving machines, building materials and equipment designed to operate in winter."

Alongside the canal small settlements are rising to house construction workers and maintenance crews, and the area of irrigated land is increased. Four large-scale enterprises for vegetable and dairy production are to be established on the territory of Dzhezkazganskaya Oblast.

Irrigation Projects Completed

Tselinograd FREUNDSCHAFT in German 11 Apr 80 p 1

[KasTAG report: "Oases in the Desert"]

[Text] Even the most severe drying winds can no longer harm the string of new oases in the western foothills of the Tianshan. At the present time the spring run-off has filled the Tashutkul reservoir on the Chu to the planned capacity. That is enough water to set up reliable cattle watering points in the Muyunkum desert where the river spends itself in the sand.

At the same time the mechanized waterway construction columns completed the first expansion stage of the Tashutkul Canal, which extends across 25 km of arid land. This artificial river, lined with polyethylene foil and concrete slabs, can reliably supply water to 25,000 hectares of beet, corn and wheat fields, vegetable and cattle feed plantings. In the next five-year plan period the area of the oases bordering the canal will be more than doubled.

The new irrigated crop growing zone was established in regions which began to be developed in the early years of the Soviet power on V.I.Lenin's

initiative. Currently not only the Chu valley but the entire foothill region of the Tianshan has been transformed into a system of flourishing oases. Every year more than 1.5 million tons of wheat and rice are harvested here, and sugar beet record a high yield. The virgin land of the valleys between the mountains has become the major base for the production of hybrid maize seed.

Irrigated in Kazakhstan now are 1.9 million hectares. Twenty percent of all crops are harvested on irrigated desert land, and this figure includes the total volume of cotton and rice.

11698

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REGIONAL DEVELOPMENT

AGRICULTURAL PROSPECTS IN KAZAKHSTAN REVIEWED

Tselinograd FREUNDSCHAFT in German 10 Jun 80 p 2

[Article by Mikhail Motoriko, minister for agriculture, Kazakh SSR: "The Future Grows From the Present"]

[Text] The Kazakh CP Central Committee resolution "On the 60th Anniversary of the Kazakh Soviet Socialist Republic and the Kazakh Communist Party" says: "In the course of the past 60 years, thanks to the consistent pursuit of Lenin's farm policies, profound changes have occurred in the agriculture as well as the entire economy of our republic. An unprecedented journey has led from nomadic cattle herding to sophisticated agrarian production which is much better equipped with modern machinery than many developed countries.

Before the October Revolution Kazakhstan was a backward region at Russia's periphery, and its agriculture was quite primitive. World War I and the subsequent civil war inflicted serious damage on the region. By comparison with 1913 the stock of cattle in 1923 had declined by 30 percent, the total grain yield by 26 percent. In 1928 both cattle stocks and the total grain yield already exceeded the prerevolutionary status.

The implementation of Lenin's cooperative plan for the socialist transformation of the village represented the turning point in the development of farming. Of particular importance for the general improvement of the republic's agriculture were the machine tractor stations (MTS) set up in Kazakhstan in 1929.

The cultivation of virgin lands initiated the rapid rise in the republic's agriculture as in that of the entire country. Thanks to the efforts of the Soviet people generally the virgin lands region was transformed into a reliable granary of the country. This provided the prerequisites for the smooth progress of farming as a whole.

In 1954 the total grain yield in Kazakhstan achieved 7.5 million tons, that is an increase of 41 percent. 1956 was the first year for Kazakhstan to supply 1 billion puds of grain to the socialist fatherland.

Another step forward in the development of farming in the republic was initiated by the CPSU Central Committee's March 1965 Plenum which drafted the bases of CPSU farm policies in the current stage of development. The Eighth and Ninth Five-Year Plan periods were times of rapid development in crop farming and animal husbandry, of profound changes in the economic structure of the republic's kolkhozes and sovkhoses. Grain production became more stable although it must proceed in difficult climatic conditions. The years of severe drought--1974 and 1975--reminded us that the crop farmers of the republic have to maximize the potential of virgin land cultivation in order to use it most efficiently.

The virgin lands of the republic are growing more fertile as the years go by, harvest yields more and more stable. Three times in the current five-year plan period did we manage to deliver more than 1 billion puds of grain to the state granaries. Most substantial were the successes of the republic's crop farmers in 1979. A record volume of grain--more than 34 million tons--was harvested, and 20.6 million tons sold to the state.

Annual average grain production in the republic in the past 4 years amounted to 27.2 million tons, exceeding the level envisaged for 1980: Already per capita production is more than 1.5 tons of grain.

In the years of the Soviet power Kazakhstan advanced from nomadic cattle herds to mechanized large-scale cattle raising complexes. At the present time Kazakhstan ranks second with regard to USSR wool production, third for meat and egg production and fourth for milk production.

State purchases of animals and poultry, milk and sheepskins have risen 4-fold since 1953, of wool 3.5-fold and of eggs 46-fold; milk yields have doubled. Particularly notable are the advances in the development of animal husbandry following the opening up of the virgin lands. The expansion in the production of grain, fodder and grazing provided a favorable base for the development of dairy cattle, pig and poultry breeding in the virgin land region. Concentrated here at present are 50 percent of the republic's beef cattle, 60 percent of pigs, 15 percent of sheep and about 30 percent of poultry. Most virgin land sovkhoses have become major enterprises of crop production and reliable bases for the expansion of animal production.

Beginning with the Ninth Five-Year Plan period a qualitatively new stage of development began in animal husbandry, based on consistent specialization, concentration and industrialization.

Due to the establishment of giant mechanized farms and animal husbandry complexes the work of stock breeders has been considerably eased and their productivity increased; at the same time animal yields have risen.

Extensive breeding is proceeding in the republic, and much is being done to improve the yield of the animals. New breeds are raised, such as the Kazakh white-faced beef cattle, the Kazakh fine wool bearing sheep, the south and

WOULD RAISED entire sheep, the Pacific entire sheep, the Mustang and Mustang horse and the Seven-Rivers pig.

The measures for the material-technical transformation of farming occupy a place of honor in the evolution and development of CPSU agricultural policies. In the period 1965-1979 the energy capacities of the republic's agriculture doubled. We now have available 236,000 tractors including 36,000 Kirovets units, 107,000 grain combine harvesters, 100,000 trucks and many other farm machines. Qualitative as well as quantitative changes are occurring in the technical equipment of our agriculture. In the period following the CPSU Central Committee's March 1965 Plenum the tractor, combine harvester and truck stock in the republic was completely renewed.

Utilizing the constantly increasing technical equipment, the findings of science and progressive experiences, our farm workers are persistently struggling for the further expansion in grain output and the rapid development of animal husbandry.

Our most important concern continues to be the greatest possible rise in grain production. Grain is crucial for the standard of our entire work. The grain farmers of our republic are confronted with the specific task in the coming years to harvest no less than 20 decitons of grain per hectare. To achieve such advanced targets it will be necessary to make steadfast efforts and use all existing reserves for the further improvement of yields. This means primarily further work on the introduction of soil conserving crop cultivation systems, scientifically based crop sequences and extensive chemicalization.

Much remains to be done to increase the cultivation of such crops as buckwheat and millet; also expanded must be the output of corn, fodder and grain crops.

Irrigated lands represent a major reserve for crop cultivation. At this time the republic boasts some 2 million hectares of irrigated land. That amounts to 4 percent of the total area sown to those crops which supply 20 percent of the total yield. It is imperative to make the fullest use of every hectare of irrigated land.

The CPSU Central Committee's July 1978 Plenum established meat production as the first priority. The development of animal husbandry entirely depends on the status and standard of the fodder base. That is why work must be so organized that every farm has a stockpile of feed--more than that, high-quality feed.

Another factor in the expansion of meat production is the achievement of adequate stocks of young animals and higher meat yield from all animals.

Sheep raising, our traditional farm industry, continues to be the object of special concern. It is our aim so to increase the stock of ewes that they

will account for 65-70 percent of all herds. It is also necessary in every way to encourage the advance of pig, horse, rabbit and poultry breeding.

Milk production enjoys the steady attention of our farm organs. Last year milk yields improved substantially. They are planned to rise even further. Milk production in our republic is consistently converting to industrial methods. At this time we have 200 giant mechanized farms, including 60 odd dairy complexes.

In looking back and assessing our achievements, we may claim that the working people in Kazakhstan's agriculture are making every possible effort toward the successful realization of the difficult tasks set by the party for the further rise in the farm production of the entire country.

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REGIONAL DEVELOPMENT

REPORTS ON ZONAL AGRO-SCIENTIFIC CONFERENCES

Omsk ZEMLYA SIBIRSKAYA DAL'NEVOSTOCHNAYA in Russian No 5, May 80 pp 15-16

[Article: "Strengthening the Harvesting Power of Fields"]

[Text] Omsk

The overall increase in grain production, raising the stability of the grain industry on the basis of improving the structure of the sowing area and on the growth of the harvest--these are the most important goals established for the country's farmers by the 25th CPSU Congress. How are these goals being fulfilled in Western Siberia, Kurganskaya and Chelyabinskaya oblasts, what has been done in this region during the 4 years of the five-year plan? The zonal scientific-production conference that took place in Omsk on 27-28 February of this year was devoted to discussing these questions. It was called by the USSR MSKh [Ministry of Agriculture], the RSFSR MSKh and the SO [Siberian Department] of VASKhNIL [All-Union Lenin Academy of Agricultural Sciences]. The conference was opened by the deputy minister of agriculture of the RSFSR, B. P. Martynov. Participating in the work of the conference were the USSR minister of agriculture, V. K. Mesyats and the representatives of other ministries and departments of the RSFSR.

N. Z. Milashchenko, director of SibNIISKhoz [Siberian scientific research institute of agriculture] and corresponding member of VASKhNIL, spoke about raising the effectiveness and stability of farming. He noted that Western Siberia, Kurganskaya and Chelyabinskaya oblasts have at their disposal great possibilities for increasing grain and feed production. The kolkhozes and sovkhozes have over 25 million hectares of plowland, which can provide a large harvest if used effectively. However, during the years of the current five-year plan good results were not achieved everywhere by far.

At the present time, Siberian scientists under the leadership of SibNIISKhoz have developed and are introducing zonal agrocomplexes in experimental-production enterprises of scientific institutions and in leading kolkhozes and sovkhozes. In the OPKh [Experimental model farm] of SibNIISKhoz, for example, the use of agrocomplexes has secured a grain harvest of 22.6 quintals per hectare.

V. K. Boyev, director of SibNIIESKh (Siberian scientific research institute of agricultural economics) discussed the economics of grain production. V. P. Kostornoy, deputy director of SibNII of Feeds and candidate of agricultural sciences, discussed the development of the feed base.

The participants in the conference actively discussed the speeches and reports as well as the proposals for zonal agrocomplexes. They made additional recommendations and corrections.

The speech of A. Ya. Ernst, chairman of the Zarya Altaya Kolkhoz of Zav'yapovskiy Rayon, Altayskiy Kray, was listened to with great interest. Located in the extremely dry conditions of the Kulundinskaya Steppe, this enterprise achieves a large and stable harvest which this year comprised 22.9 quintals per hectare by using a system of soil-conservation farming and a complex of other measures.

The director of the agricultural production association of the Omskaya Oblast executive committee, Ye. G. Konovalov, spoke about the agrotechnical measures that secure a growth in the effectiveness and stability of farming in the kolkhozes and sovkhozes of Omskaya Oblast. He said that the basis for the initial success of Omsk farmers was the soil-conservation system, clean fallow, improving seed-farming for grains and scientifically-based crop rotations. This encourages a growth in productivity which last year comprised 18.5 quintals per hectare in the oblast and also a stability in gross grain yield. The director of the Sibiryak Sovkhoz of Russko-Polyanskiy Rayon, Omskaya Oblast, A. S. Petrov, spoke about the experience of developing the grain industry and the use of the Omsk system of preparing and forming batches of grain that will meet the standards for the strong category. This enables us to deliver high-quality grain to the state and to receive higher payments for it.

V. I. Ovsyannikov, chairman of the Rodina Kolkhoz of Kitayskiy Rayon, Kurganskaya Oblast, and candidate of economic sciences, shared an interesting experience with the conference members. Here the grain-fallow crop rotations with the introduction of large quantities of mineral fertilizers secures the largest production output. In the kolkhoz grain productivity has reached 31.4 quintals per hectare.

The question of raising the effectiveness and stability of farming was discussed by over 30 specialists, directors of enterprises and agricultural administrations and scientists of a number of scientific-research institutions in the region. Discussing their work experience on increasing productivity and on developing recommendations on this question were the following: A. N. Olyanin, senior agronomist of the Perve Maya Kolkhoz of Pervomayskiy Rayon, Tomskaya Oblast; A. M. Onishchenko, chairman of the Kolkhoz imeni Kalinin of Kupinskiy Rayon Novosibirskaya Oblast; V. S. Zaytsev, director of the agricultural production association of the Chelyabinskaya Oblast executive committee; V. I. Arkhipov, director of the Zavodoukovskoye OPKh of the ZauralNIISKh (Tyumenskaya Oblast); K. B. Yankilevich, senior engineer-reclamation worker of the Tomich production

association of Tomskaya Oblast; N. S. Ponikarovskiy, deputy director of the agricultural production association of the Kurganskaya Oblast executive committee; Yu. D. Kushnirenko, director of the Southern Ural NII of Farming and candidate of agricultural sciences; I. T. Khizhin, senior agronomist of the agricultural production association of the Tatarskiy Rayon executive committee of Novosibirskaya Oblast; V. I. Kandaurov, deputy director of ANIIZIS [Expansion unknown] and candidate of agricultural sciences; I. A. Sikorskiy, director of the Kurganskiy NIIZKh [Scientific Research Institute of Grain and Grain Products] and candidate of agricultural sciences; Yu. L. Kulikov, senior agronomist of the agricultural production association of the Muromtsevskiy Rayon executive committee of Omskaya Oblast; V. F. Bykov, director of the Rassvet Sovkhoz of Belovskiy Rayon, Kemerovskaya Oblast; M. N. Starostin, director of the farming division of the Narymskaya State Breeding Station of Tomskaya Oblast; A. D. Langol'f, senior agronomist of the Zarya Kolkhoz of Leninsk-Kuznetskiy Rayon, Kemerovskaya Oblast; V. G. Kholmov, director of the farming division of SibNIISKhoz and candidate of agricultural sciences; V. V. Gaas, chairman of the Kolkhoz imeni Lenin, Slavgorodskiy Rayon of Altayskiy Kray and many others.

V. K. Mesyats, USSR minister of agriculture, presented the concluding speech.

The participants in the meeting approved the recommendations on raising the effectiveness and stability of farming in Western Siberia and in Kurganskaya and Chelyabinskaya oblasts.

Krasnoyarsk

Twenty five representatives of the best enterprises of Eastern Siberia, of scientific institutions and of the system of agricultural administration of this region spoke at the zonal meeting on the subject, "Ways to Increase the Effectiveness and Stability of Farming in Eastern Siberia." The conference took place at the end of February in Krasnoyarsk. Participating in the work of the meeting were the deputy agricultural minister of the USSR, A. A. Pomortsev, the minister of agriculture of the RSFSR, L. Ya. Florent'yev, and workers of the chief directorates of ministries, the RSFSR Council of Ministers and party and soviet organs of the region. The conference critically examined the results of production activities during the past year in farming in this zone, made principal evaluations and indicated specific ways to solve problems that exist for agriculture in Eastern Siberia in 1980.

The problems are most complex. The rapid development of the fuel, energy and mining industries in the region requires the delivery of the corresponding quantity of foodstuffs produced locally. It is enough to say that the oblasts and republics of Eastern Siberia and Krasnoyarskiy Kray have the obligation of supplying agricultural products to the workers in the industrial complex of most of the Baykal-Amur trunk line. What are the resources that are at the disposal of the zone's farmers for such an abrupt increase in production?

It was noted at the meeting that the contrasts in productivity attest to the existence of such resources. The enterprises of the same natural-climatic zone produce harvests that vary by factors of 2 or 3 in the same year. At the same time the leading experience of Shushenskiy and Minusinskiy rayons of Krasnoyarskiy Kray, for example, attest to the fact that farming in Eastern Siberia can withstand the unfavorable aspects of weather without losing the stability of large harvests of agricultural crops. Of course this applies only if farming is managed at the necessary agrotechnical and organizational level. This is the key to the main resource for increasing the fertility of Eastern Siberian lands. It is fully accessible to all enterprises because it depends not on the caprices of nature but on the organization of production.

Unfortunately, winter has already shown us that not everything possible is being done to produce large harvests. As of February, for example, only 38 percent of the combines were repaired in Irkutskaya Oblast; 47 percent in Krasnoyarskiy Kray. This is respectively 19 and 10 percent less than the average for the RSFSR. Many enterprises traditionally leave repairs for summer, which always interferes with the pace of feed procurement. The repair of tractors is moving more slowly than before. The formation of a seed fund of excellent sowing condition is proceeding too slowly, especially in Irkutskaya and Chitinskaya oblasts.

The conference carefully and thoroughly examined the problem of the fallow fields. The RSFSR Ministry of Agriculture is supporting the trend toward increasing the area of clean fallow as much as possible as dictated by the natural-climatic conditions in a specific region. However, frequently the fallow fields are expanded by curtailing the area in grain crops instead of including low-productivity lands of perennial grasses in crop rotations. There are many such land areas in Krasnoyarskiy Kray and in other administrative rayons of the region. The quality of care for fallow is particularly alarming. In Irkutskaya Oblast, for example, organic fertilizers have been applied on only half of the fallow fields; in the zone as a whole--1 ton per hectare, although there are sufficient quantities of fertilizer and technology almost everywhere. It is essential to increase the introduction of organic fertilizers by a factor of 1.5-2 on fallow fields by utilizing the resources of Soyuzsel'khozkhimiya [All-Union Production-Scientific Association on Agrochemical Services for Agriculture].

It was noted at the conference that the 11th Five-Year Plan will become the time for the extensive chemization of grain fields and of feed production. It is necessary to start now to equip enterprises with storehouses for storing mineral fertilizers. The time has come to direct capital investments at developing a foundation for the grain industry and feed production and at social-cultural building. Animal husbandry can already be developed by reconstructing existing production facilities without capital expenditures.

However, not everyone has learned how to utilize new resources correctly and effectively. According to the data of scientists, for example, by

simply improving the quality of feed while retaining the same quantity it is possible to increase agricultural production output by 40 percent and more. Nevertheless, the plan for building feed storage facilities was only fulfilled by 38 percent last year in the enterprises of Eastern Siberia, although the money for this was allocated.

Tens of millions of rubles are "saved" here on residential construction, thereby encouraging the ever-growing turnover of mechanized cadres. On the average each sovkhos in Eastern Siberia builds only nine apartments per year, while in Buryatskaya ASSR the figure is even lower--6! The possibilities for building economically are used poorly by specialized organizations as well. In the enterprises of Omskaya Oblast, for example, it is only through the initiative and concern of the directors of kolkhozes and sovkhoses regarding strengthening the cadre composition that 25 families a year per enterprise on the average move into new quarters.

The attention of the conference's participants was focused on the necessity to increase the production of millet and buckwheat and the proportion of pulse crops within the structure of agricultural crops. Other important aspects of raising the effectiveness of farming in Eastern Siberia were examined.

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AGRO-ECONOMICS AND ORGANIZATION

ADVANTAGES, PROBLEMS ASSOCIATED WITH DEVELOPMENT OF SUBSIDIARY FARMS

Moscow TRUD in Russian 15 May 80 p 2

[Article by V. Burla (Kuybyshevskaya Oblast): "Problems of a Plant Agricultural Department"]

[Text] Ten years ago the Kuybyshev Sulphur Plant leased a facility at a neighboring sovkhos for the fattening of 30 pigs. There are presently 527 animals at this pig farm and with the onset of warm weather, at which time it will be possible to use the pasture areas, the number of animals will increase by one third.

During a year's time, the subsidiary farm of this enterprise supplied the dining halls and kindergartens with more than 500 quintals of pork.

N. Khurtina, chief of the Department of Workers' Supply.-- "The farm offers many advantages. As a result of internally produced goods, better quality food becomes available and a greater variety of semifinished products is offered in the plant's snack bar."

B. Ryaboshapko, director of the plant -- "In 2 years we will be fattening 1,000 pigs. We will modernize and reequip the pig farm and we will strengthen the feed base using our own resources."

The farm is being developed. The construction of a new farm having a feed preparation shop has been completed. Here the processing and issuing of feed are mechanized and use is being made of scraper conveyers for cleaning the premises and also other mechanisms. This has made it possible not only to increase the number of animals but also to lower production costs.

The growth in the subsidiary farm has brought about a number of problems, the likes of which other enterprises will inevitably encounter. Thus no delay can be tolerated in solving these problems.

The principal foundation of animal husbandry is feed. In recent years the Ministry of the Chemical Industry has satisfied up to 60 percent of the

feed requirements of the plant's farm. There is no basis for expecting increased deliveries from the state funds -- rather, internal production must be increased. But how is this to be done? If the arable land is expanded, then more specialists, equipment and so forth will be required. This is beyond the capability of the plant.

However, there are other possibilities. Last year, a total of 87 tons of food waste products were used for fattening the pigs. More extensive use of this type of feed is not possible owing to the fact that equipment is lacking for transporting and processing it. Such equipment is not being supplied to subunits of USSR Goskomsel'khoztekhnika. The plant workers are aware that Uman'sel'mash is producing sets of equipment for the processing of waste products. But these are intended for complexes for 100,000 to 200,000 head and their cost is in excess of 10,000 rubles. Such equipment is not suitable for a subsidiary farm.

The situation with regard to other items of mechanization equipment and the spare parts for such equipment is also rather tense. Goskomsel'khoztekhnika has placed agricultural departments on a par with agricultural enterprises. But what if the subsidiary farm of the sulphur plant requires a TSN-35 scraper conveyer. Does it pay the money and take it? No. There is a critical shortage of such conveyers and thus there is no basis for expecting rapid delivery. A solution can be found for this problem on the large farms -- they would make a similar unit themselves. However, a plant farm, owing to its limited resources, is unable to do this.

The solution for this problem is as follows: during the course of developing the agricultural departments, Sel'khoztekhnika should devote greater attention to them and extend certain privileges. There are not very many such farms and their requirements are not very great.

Great difficulty is being encountered in solving the problems concerned with providing veterinary services for the farms. True, there has still not been one case of a disease breaking out among the animals here. This is largely due to the efforts of the head of the pig farm, A. Kulikov. A veterinarian by education, he organized the prophylactic work in a fine manner. But a great amount of effort was required!

"Our requirements disturb nobody," stated Kulikov. "We are not supplied by Zoovetsnab with the medicines required for animal husbandry: we are told to go elsewhere and look for them. Since the establishment of the farm, we have been able to obtain only 10 thermometers, five scalpels and a box of streptomycin from Zoovetsnab."

Thus far the problem has been solved by means of natural barter.

"In order for the subsidiary farms to become full and equal customers of ours" stated the deputy director of the oblast Zoovetsnab Association, I. Morokhin, "Roszoovetsnab" must furnish us with appropriate instructions. They have yet to do this."

The construction of the pig farm cost the plant a tidy sum of money -- 376,000 rubles. Meanwhile, it is still far from perfection. There were a number of flaws in the standard plan; it made no provision for facilities for the young stock, sows or boars. A quarantine facility was lacking and also a warehouse for medicines and medical equipment. No provision was made for a slaughtering point, water lines, sewerage or sedimentation tanks. Unfortunately, the existing standard plans in no way took into account the specific conditions of the subsidiary farms.

"At the present time, as we make preparations for modernizing the farm, our planners are traveling throughout the oblast seeking answers to many questions. However, they are not obtaining the answers desired." complained Ryaboshapko.

Truly, it is difficult to proceed here in the absence of special knowledge. It is obvious that a standard plan is required for the livestock facilities of subsidiary farms and one which takes into account a gradual and typical increase in the number of animals in the agricultural departments.

There are many ambiguities associated with the official schedule. For example, in the case of small farms no provision is made for the capability of the head of a farm, a veterinary worker or a zootechnician. The existing norms in this regard are oriented towards the number of head of livestock. This is fully justified in the case of kolkhozes and sovkhoses, where a centralized service provides the services required by small farms. But it does not apply in the case of a subsidiary farm, where all work must be performed by one individual, the head of the pig farm, who performs in the role of pig-tender, stevedore and even as a file clerk. Although his enthusiasm may be astonishing, nevertheless he may prove to be inadequate to the task when the farm undergoes further development. And what about enterprises which do not have individuals such as Kulikov assigned to it?

There is no need for discussing the future prospects of subsidiary farms: they are universally recognized. The task consists of removing those obstacles which lie in the path of this most important trend for increasing the production of food products.

First of all, a requirement exists for special standard plans for livestock facilities, plans which call for a gradual expansion by stages. At the present time, such plans are simply not available. An urgent requirement exists for equipment to be used for processing food remnants and not the type of equipment prepared for giant farms. Rather, the equipment should be considerably more compact and cheap. Goskomsel'khoztekhnika should devote greater attention to the requirements of subsidiary farms which are still somewhat weak. Zoovetsnab should quickly solve those problems concerned with ensuring that the plant farms are supplied with the required preparations and medicines. And finally, a solution must be found with regard to the staffing of subsidiary farms -- either this should be undertaken by the appropriate ministries and departments or recommendations should be furnished by Goskomtrud [State Committee for Labor and Wages of the USSR Council of Ministers]. However, one way or the other, a solution must be obtained for the existing personnel problem.

GRAIN CROP STRUCTURE IN ALTAYSKIY KRAY OUTLINED

Omsk ZEMLYA SIBIRSKAYA, DAL'NEVOSTOCHNAYA in Russian No 5, May 80 pp 12-15

[Article by A. B. Mishin, deputy chief of the Altay Krayispolkom Agricultural Production Administration, Meritorious Agronomist of the RSFSR; M. P. Gritsenko, manager of the Altay department of SibNIIESKh [Siberian Scientific Research Institute of Agricultural Economics], candidate of economic sciences; O. V. Kislov, department senior scientific staff member, candidate of economic sciences: "Placement of Grain Forage Crops"]

[Text] The Altayskiy Kray is a region of so-called risky farming: two to three of every 5 years here are extremely dry. Man at present is unable to change nature's conditions. These conditions must be taken into consideration and one must strive to ameliorate the forces of nature which negatively impact on the yield of agricultural crops.

Much has been done in the kray in this regard. Introduced into production are high-yielding varieties, and new progressive agrotechnical procedures developed by the scientific research enterprises of Siberia, including those in Altayskiy Kray. Agriculture's material and technical base is being strengthened with the assistance of the state. Thanks to this in recent years the influence of drought has been significantly eased, resulting in a noticeable improvement in the average annual grain production as compared to the Seventh and Eighth five-year plans.

During the Eleventh Five-Year Plan given the present rates of growth of the material and technical base the intention is to achieve an average annual yield of grain crops of up to 13.9 and, given its significant acceleration--up to 15.9 quintals per hectare. The annual grain yield must grow to 6.4-7.3 million tons. Achievement of such a grain production volume with minimal expenditure of labor and resources is only possible through intensification of farming. An important role in the solution of the task placed before the kray is scientifically substantiated placement of grain production

throughout the administrative regions and zones in the kray. This is primarily stipulated by a necessity to provide animal husbandry with concentrated feeds.

The Altayskiy Kray is a large producer not only of grain, but also of animal husbandry products. As of 1 January 1980 there were in the public sector here 1,670,200 head of horned cattle, including 571,000 cows, 693,900 pigs, 2,650,600 sheep, and 5,573,700 chickens. The livestock population increases each year and its productivity grows. In 1979 as compared to 1975, more has been sold to the state: 59,900 tons of beef or 40.6%, 2,730 tons of pork or 6.2%, 2,186 tons of wool or 21.4%, and 72.5 million eggs or 17.5% more. The plan for the final year of the 5-year plan is to produce up to 391,000 tons of meat, up to 11,000 tons of wool, and up to 441 million eggs.

The increase in livestock population means an increased requirement for forage grain. Given intensive development of animal husbandry, concentrated feeds are a component of feed rations. Therefore, rise in production of this grain is a vital task for the present. Feed is the main condition for a growth in volumes of animal husbandry production. Their quantity and quality determine the level of development of all branches of animal husbandry, while concentrates play a decisive role in increasing its productivity.

However, the rate of growth of feed production and primarily of forage grain crops up until the present significantly lag behind the rate of growth of the livestock population. One reason for this is the complexity in the placement and concentration of sowings of young grains and the necessity for scientific development of specific forms of specialization relative to each region and to each agricultural enterprise. The placement of sowings of wheat, barley, and pulse seed crops on a scientific basis requires an increasingly complete correspondence of the systems of farming and animal husbandry to objective natural and economic conditions. One must take into consideration the wide variance of soil and climatic conditions in order to place grain forage crops in a scientifically substantiated manner in the enormous territory of the kray.

Based upon natural conditions Altayskiy Kray is divided into eight agricultural zones. The harvest of grain crops in the basic zones is formed on relatively fertile soils. But, some years here are extremely dry, causing sharp fluctuations in yield and in gross output. In favorable years kray kolkhozes and sovkhoses obtain relatively high harvests, which predetermines the average multiyear (by periods) yield of grain crops, makes it possible to create national as well as interfarm and intrafarm reserves and, on this basis, conduct a planned grain economy. Today's vital task is to develop and introduce into production those grain varieties which, given their rational placement on kray territory, in the best years would yield in the boghara 25-30, and in arid lands 10-12, quintals per hectare. Wheat is the main food crop in the kray. It makes up more than 70% of the grain crop sowings and gross output structure, and more than 80% in procurements. Approximately 70% of the wheat volume is placed in the Kulunda and Ob' [Priobskaya] zones.

With the exception of favorable years, 40-50% of the protein was lacking in animal rations during the period being analyzed (1971-1978) in the kray. A large overexpenditure of feeds occurred due to the lack of balance of nutrients. As a result animal husbandry production, except for beef and pork, was unprofitable. Further development in animal husbandry requires an increase in gross output of grain forage crops--oats, barley, and pulse seed crops which contain a large amount of protein, calcium, potassium, phosphorus, and amino acid. They are also advantageous due to high yield, as the data in the table confirm.

Grain forage crops are most productive in all zones regardless of predecessors when compared with spring wheat. Thus, in 1976 under production conditions on the average throughout the kray oats exceeded wheat in yield when sown following clean fallow by 16 quintals per hectare, a second crop following fallow by 6, following tilled fallow by 5.4, following pulse seed by 5, following perennial grasses by 3.7, following spike seed by 7.7 quintals per hectare, while the figures for barley are 5.2, 2.6, 1.8, 5.4, 2.7, and 1.9 quintals per hectare, respectively. According to SibNIISKhoz [Siberian Scientific Research Institute of Agriculture] experimental data from 1969-1972, barley exceeded spring wheat in yield by 13.2 and oats by 15.2 quintals per hectare. Overall throughout the RSFSR barley on the average during the years of the Ninth Five-Year Plan exceeded spring wheat in yield by 2.2 quintals per hectare.

Evaluation of the present placement of forage crops and their feed advantages compared to spring wheat was complicated by the fact that they do not grow under equal conditions. Barley and oats in crop rotation, as a rule, are sown not only following poor predecessors, but also on poor land and practically speaking are not fertilized. There are often cases of poor agricultural techniques being employed. Seed production also leaves something lacking. These and a number of other reasons make it impossible to fully employ the potential capabilities for a significant increase in grain forage crop yield. Meanwhile, even under such extreme growing conditions the yield of oats on the average for 1966-1978 was higher than that of spring wheat in the kray by 1.2 quintals per hectare, and higher by 2-3 quintals per hectare in the Biysk-Chumysh Zone. This real reserve for increasing gross grain output through expansion of sowings of the more fertile crops in the more favorable zones of their placement must be used in each rayon and on each farm.

Analysis of the grain production structure shows that between 1971-1978 its specific ratio notably increased. Thus, production of barley in the kray increased by a factor of 1.5, that of oats by a factor of 1.7, that of pulse seed crops by a factor of 1.6, and wheat production increased by 13.5%. The increase in forage grain crop production here took place in a trend from the eastern and mountainous regions to the steppe portion of the kray. Thus, the gross output of barley in the Salair [Prisalairskaya] Zone grew only by 8%, and by a factor of 1.3 in the Altay [Prialtayskaya] and Biysk-Chumysh zones, and by a factor of 2.1 and 1.9 respectively in the Ob' and Kulunda zones. The picture for oats is similar.

Yield of Barley, Oats, and Spring Wheat
at State Strain Testing Stations and In Production
Sowings, Quintals/Hectare

Crops	1966-1970	1971-1975	1976-1978
Kray State Strain Testing Stations			
Oats	21.2	22.8	24.9
Barley	18.2	21.5	21.8
Spring Wheat	15.2	19.7	18.0
Oats to Wheat, %	139.5	112.7	138.3
Barley to Wheat, %	119.7	109.1	121.1
Production Sowings Throughout the Kray			
Oats	11.4	14.2	13.3
Barley	11.0	13.5	11.6
Spring Wheat	10.4	13.3	10.1
Oats to Wheat, %	103.6	105.1	114.6
Barley to Wheat, %	109.6	106.7	131.6

In other words, on the farms in the Kulunda zone given a yield of oats of 12.6 and of peas 8.1 quintals per hectare, their area was expanded by 69-72%, while in the Biysk-Chumysh zone the increase in yield of these crops was 2.5-6.6 quintals per hectare while the sowing area increased only by 41 and 20%. In the Ob' zone given a barley yield of 12.8 quintals per hectare the growth in areas was 81%, while in the Altay and Biysk-Chumysh zones, where the yield reaches 16.2 and 14.9 quintals per hectare, the area of sown areas increased respectively only by 15 and 20%.

In spite of the growth in sown areas, the slight increase in gross forage grain output and animal husbandry requirements for concentrated feeds are almost 70% satisfied by wheat, and often (especially in the steppe portion of the kray) through strong and durum varieties. Oats, barley, and pulse seed crops in the feed structure only make up 28, 20, and 29%.

Computations show that at present the ratio of food and forage grain taking into consideration scientifically substantiated norms of consumption of grain products and satisfaction of grain forage needs of animal husbandry in the regions of Western Siberia should be 1:5.6, when in actuality in the kray it is 1:3.3. The following is required in the gross output structure in order to meet the requirements for food and forage grain: wheat 40, barley 20, oats 23, and pulse seed crops 9%. The actual structure at the present time is wheat 75.6, barley 7.6, oats 11.2, and pulse seed crops 1.3%. This means that annually a significant quantity of wheat feeds cattle and there is a shortage of forage crops, although the latter in yield significantly outstrip wheat.

The results of the work done by state strain testing stations [GSU] located in the Blyak-Chumysh, Salair, Altay, and Ob' zones demonstrate the high potentials for a growth in yields of grain forage crops, especially new varieties. Thus, barley and oats placed in crop rotation following grain crops and given relatively equal conditions provide more yield than spring wheat by a factor of 1.2-2. Output of feed units per hectare of forage crop sowing was higher when compared with wheat, as follows: at the Ust'-Pristanskiy and Kraasoshchekovo GSU by 26-28, at the Yegor'yevsk by 24-34, at the Smolensk GSU 52-63%, and at the Kraasogorsk GSU by a factor of 1.6-1.8.

Based upon comprehensive evaluation of grain forage crops and soft spring wheat in yield under comparative conditions at state strain testing stations, the intent in the Ob' zone is to sow wheat on up to 60,000 hectares, barley on up to 52,000 hectares, and pulse seed crops on up to 13,000 hectares; the corresponding figures in the Blyak-Chumysh zone are 86,000, 132,000, and 50,000 hectares; and in the Salair zone respectively 18,000, 129,000, and 43,000 hectares, which exceeds the extant level of sowings of these crops in the aforementioned zones by a factor of 1.5-5. Overall it is advisable to have in the kray at least 400,000 hectares of barley, 600,000 hectares of oats, and 200,000 hectares of pulse seed crops for a total area of 1.2-1.3 million hectares.

Improvement in the placement and expansion of areas planted to grain forage crops makes it possible to increase their gross output from 1.2 up to 1.8-2 million tons. In overall grain volume their ratio will rise from 22.3 up to 28.1%. In order to increase the economic incentive for farms to increase production of barley, oats, and pulse seed crops it is advisable to introduce a differentiation of purchase prices based on kray administrative regions. Placement of animal husbandry branches by kray zones should be accomplished strictly taking into consideration the planned placement of forage grain production.

Considering that the capabilities within the kray for expanding the sowings of grain crops are limited, the increased grain production should mainly be insured through increasing yield. When determining this for the future one takes into account the potential fertility of the fields and rational use of soil and climatic resources, progressive organization, production technology, and achievements in selection, chemization, and irrigation. Thus, looking to the future by 1985 SibNIIESKh plans a barley and oat yield of 16.8 and pulse seed yield of 15.7 quintals per hectare.

Thus, it is possible to significantly increase grain crop production through rational placement of their production throughout the kray's agricultural zones and regions without significant capital expenditures and to obtain a higher quality product. On this basis the kray's grain economy will become profitable. In the future the yield of all agricultural crops, including grain crops, will greatly increase and their gross output will rise. Improvement in their placement throughout the kray's agricultural zones and regions will greatly facilitate this.

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TILLING AND CROPPING TECHNOLOGY

GRAIN, SUGAR BEET SOWING IN DZHAMBULSKAYA OBLAST DISCUSSED

Official Interviewed

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 9 Apr 80 p 1

[Interview with U. Baygel'diyev, director of the agricultural department of the party obkom: "In the Best Time"]

[Excerpts] Dzhambul'skaya Oblast--April, the main month for sowing the fields in southern Kazakhstan, announced itself with bright verdance in the winter fields. For the farmers of Dzhambul the heaviest work is nearing an end. The sowing of cereal crops is nearly complete, and sugar beets and other agricultural crops are being planted at full speed.

The area sown covers more than 900,000 hectares in the oblast. U. Baygel'diyev, the director of the party obkom, told our correspondent how the work is going:

"The machine operators have many concerns at the moment, both with the cereal crops and the sugar beets. These crops will take up about 670,000 hectares in the oblast. A late and rainy spring is hampering the farmers' work. However, they combat the complex meteorological conditions with a high degree of organization and skillful maneuvering of their equipment. The machine operators do not wait until the fields all dry out and are ready. The equipment is rapidly shifted from area to area. It is important that time not be wasted.

"The farmers of the oblast have now committed themselves to reap 15 quintals of grain and 350 quintals of sugar beets per hectare. More than 300 composite mechanized detachments have joined in the effort to reap large harvests; they are conducting the spring fieldwork using the Ipatov method.

"Sowing of the sugar beets was resumed once the recent heavy rains had passed. In order to get a good harvest, the land on all the farms was plowed deeply and prepared starting in the Fall, and mineral and organic fertilizers were dispensed in accordance with agrochemical charts.

"The collective has made intensive commitments. This year they intend to reap 450 quintals of sweet roots per hectare. The farms in the oblast should raise their total sugar beet production to 1,245,000 tons."

Difficulties Discussed

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 23 Apr 80 p 2

[Article by T. Yesirkepbayev, candidate of agricultural sciences and director of the Dzhambul Agroexperimental Station, and A. Korsunov, correspondent for KAZAKHSTANSKAYA PRAVDA, entitled "All in the Same Vein"]

[Text] Dzhambulskaya Oblast--Sugar beets are perhaps the most labor intensive crop, requiring great skill and diligence of those who grow it. It has been cultivated for about 40 years in Dzhambulskaya Oblast. During this time the mastery of the sugar beet farmers has grown, the equipment and gear which they use have been improved and become more powerful, and their material base has been strengthened. Chemistry has come to their aid.

But the results of their work still fail to satisfy the sugar beet farmers, since the indicators were better some two decades ago. The weight of the roots has fallen noticeably, and their sugar content has decreased. In the last four years alone the oblast has fallen short by more than 740,000 tons of sugar beets and 41,000 tons of sugar in its deliveries to the state. What is the reason for such results?

The reason is, most apparently, that the volume of production has increased and the tasks of the sugar beet farmers have assumed greater scale, but the organization of this sector has gotten bogged down in improvements. Although beet production has doubled over the past 20 years in, for example, such a major beet growing rayon as Merkenskiy, it has occurred not through growth in productivity but through expanding the area sown, to the detriment of crop rotation. On the majority of farms sugar beets are grown on the same fields without rotation, which leads to a reduction in the plants' output. The area afflicted with disease or infested with vermin has grown larger.

Sugar beets are now planted on 37,000 hectares. It is essential that new fields be put into operation in order to place such an area into a scientifically based crop rotation system. This task is assigned to Glavrissovkhozstroy, which is not coping with its planned work. Thus, last year alone it fell more than 1300 hectares short in land development.

Sugar beet productivity could be significantly improved if the planning for planting were improved and the irrigation network on the old land were rearranged and reconstructed. One of every three hectares is in need of such work. The primitive canals now available--which are located on poorly planned plots to boot--will sooner or later lead to soil salination and the formation of a swamp. We now have 25,000 hectares of such land in the oblast, but their restoration is proceeding slowly. The melioration detachments are not very large, and year after year they fail to cope with their assignments.

This drop in productivity and sugar content and growth in beet cost ultimately affect the earnings of the field workers as well.

"In the last two years the number of beet farmers has dropped by one half," states R. Sh. Asadulin, first secretary of the Merkenskiy party raykom. "And since the proportion of manual labor involved in planting sugar beets is still high, this personnel shortage directly affects productivity."

Of itself, a reduction in the number of workers involved in beet growing would be in order, if it had been made possible by the introduction of scientific achievements and advanced experience. But in actuality the beet farmers are still failing to make broad enough use of advanced methods for growing this valuable technical crop, and there is a shortage of herbicides, which made such labor intensive work as weeding significantly easier. The farms need sowing machines to accurately plant the seeds; they would practically eliminate the need to manually thin the sprouts.

Meanwhile, at such advanced farms as the "Rosa Luxemburg" sovkhos and the "Trudovoy pakhar" kolkhoz--where all these innovations are being successfully employed--the proportion of manual labor has been reduced to a minimum.

But even at the advanced sovkhoses and kolkhoses the linear flow-staging method is used for digging up the beets; that is, the root is manually cleaned in the field. And although this is the second year for the introduction of beet harvesters to the fields of the republic--their mission is itself to reduce the number of people involved in harvesting and to significantly speed it up--this new, progressive method is being poorly mastered.

The Scientific Research Institutes should obviously have an important say in the matter as well. There are many of them, but they act disjointedly and, therefore, not effectively enough. Certain issues concerning beet farming are not reflected in their activity at all. For example, beet seed production, which is of tremendous significance for improving plant productivity. However, no systematic work is being done in this area. Also, certain widespread beet diseases have been poorly studied, particularly those such as root knot and crown rot, to which a significant portion of the harvest is lost each year.

There has long been discussion about the creation in the republic of a special experimental station for sugar beets and about an interdepartmental coordinating council to coordinate the actions of all interested parties. Unfortunately, the matter has progressed no further than words.

At the same time, when speaking of the problems of this sector, which perhaps only the union and republic ministries and departments are capable of solving, we cannot forget the farmers' own reserves, either. And they are great. It is difficult to estimate what portion of the harvest the beet farmers fail to reap because of the untimely cultivation of the soil after irrigation, because of underestimating the importance of organic fertilizers, or because of violations of other agrotechnical requirements.

Many problems confront the beet farmers. They should be solved by the joint efforts of party, soviet, and farm bodies, by scientific institutions and those engaged in production.

TILLING AND CROPPING TECHNOLOGY

BRIEFS

SOWING COMPLETED--The farms in Dzhambul'skaya Oblast have finished sowing sugar beets. This year more than 37,000 hectares of the best irrigated land has been allotted to that crop. Today, the Ipatov technique dominates throughout the area. The seed was planted in the soil concurrently with the application of mineral fertilizers. [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 24 Apr 80 p 17]

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